ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL OF SCIENCE ENGINEERING AND TECHNOLOGY

EXPERIENCING URBAN MORPHOLOGY DEVELOPMENT IN TERMS OF URBAN PROPERTY RELATIONS: CASES FROM HISTORICAL PENINSULA

M.Sc. THESIS

Ezgi KÜÇÜK

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Thesis Advisor: Prof. Dr. Ayşe Sema KUBAT

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İSTANBUL TEKNİK ÜNİVERSİTESİ ★ FEN BİLİMLERİ ENSTİTÜSÜ

KENT MORFOLOJİSİ GELİŞİMİNİN MÜLKİYET İLİŞKİLERİ BAĞLAMINDA DENEYİMLENMESİ: TARİHİ YARIMADA'DAN ÖRNEKLER

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HAZİRAN 2014

Ezgi Küçük, a **M.Sc.** student of ITU **Graduate School of Science Engineering and Technology** student ID **519111006**, successfully defended the **thesis** entitled "**EXPERIENCING URBAN MORPHOLOGY DEVELOPMENT IN TERMS OF URBAN PROPERTY RELATIONS: CASES FROM HISTORICAL PENINSULA**", which she prepared after fulfilling the requirements specified in the associated legislations, before the jury whose signatures are below.

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To my family,

FOREWORD

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EXPERIENCING URBAN MORPHOLOGY DEVELOPMENT IN TERMS OF URBAN PROPERTY RELATIONS: CASES FROM HISTORICAL PENINSULA

SUMMARY

Urban morphology is a brunch of study that analyzes the transformations of urban form within a specific time period. Morphological developments in urban fabrics are researched in regard to property relations in this thesis study. Evolution and transformation of the urban forms are bound to socio-political and economic dynamics of the cities within history. Three dimensional forms of the built environment can be understood through two dimensional regularizations on land ownership properties. Property relations representing legal extent of production of space should be considered with the smallest elements of forms and should be the tool of urban planner or designer for designing/planning/conserving the urban areas. In order to make an analysis and discussion, urban blocks which are constituted by combinations of streets, buildings and plots are taken as the focus of this research. In this context, relationship between urban morphology and property relations are researched. Primarily, theories of urban morphology are explored. Concepts and studies of M. R. G. Conzen from British school of morphology are elaborated and street, plot, and building combinations are emphasized as the main units of town plan analysis of Conzen. In the second phase of the theoretical research, concept of property, its definition as a legal right and the relations among property relations, urban space, planning and design practices and laws are explained. Regarding this, morphological transformation of the Historical Peninsula of Istanbul is evaluated through empirical evidence. Especially, as focused study areas, urban fabrics of Beyazıt, Aksaray and Yenikapı regions are analyzed in terms of morphological changes in urban blocks. These areas are located in critical transportation nodes by being around Ordu Street, Atatürk Boulevard and Yenikapı port. Transformation of urban form in these regions is explored within historical development by interpretation of the historical maps. Components of urban blocks in the study areas are analyzed typologically. In an attempt to recognize ownership status and functional condition of the elements of urban blocks, territorial examinations are studied. These studies are strengthened with three analyses of Conzen: town plan, building fabric and land and building utilization. Land ownership patterns are also taken into consideration in addition to these three analyses. As a result of these analyses, Conzen's theory and practice of morphological regions are implemented for case study areas. Based on the historical evolution of the physical parts of the town, a hierarchical order system is determined for regionalization. The Historical Peninsula is the first order region. For second order regions, major plan units are determined. In the focused study areas, third orders represent street units and fourth orders indicate morphotypes. In conclusion, results of the planning practices and policies on urban form are elaborated. Property relations are explored in evaluation of urban form in the case areas of Beyazıt, Aksaray and Yenikapı. Effects of property relations are found as the main determinant of evaluation or transformation

of morphological elements in the urban form. It is observed from the analyses of the cases from the Historical Peninsula that each interventions in regard to property relations cause significant changes in the form of the urban space. Additionally, due to progressing projects in the peninsula, the danger of disidentification of the Historical Peninsula is indicated. The identified morphological regions based on the analyses are recognized as a basis for conservation plans, urban design and planning practices.

KENT MORFOLOJİSİ GELİŞİMİNİN MÜLKİYET İLİŞKİLERİ BAĞLAMINDA DENEYİMLENMESİ: TARİHİ YARIMADA'DAN ÖRNEKLER

ÖZET

Kent morfolojisi, kent formunun belirli bir zaman dilimi içinde geçirdiği dönüşümü inceleyen bir çalışma alanıdır. Kent morfolojisi çalışmalarında, kent dokularının tarihsel süreçler içindeki biçimsel dönüşümleri kentin çeşitli dinamikleri çerçevesinde araştırılmaktadır. Bu tez çalışmasında, kent dokularındaki morfolojik gelişmeler, mülkiyet ilişkilerine dayanarak incelenmiştir. Kent formunu oluşturan sokak, bina ve parsel kombinasyonlarından oluşan kent blokları, bu incelemenin odak noktasıdır. Diğer yandan, biçimsel oluşum ve dönüşümü kentlerin tarih içerisindeki sosyo-politik ve ekonomik dinamiklerinden ayrı tutmamak gerekmektedir. Yapılaşmış çevrede üç boyutlu formlar arsa mülkiyeti üzerindeki iki boyutlu düzenlemelerle kavranabilir. Mekân üretim sürecinin yasal boyutunu temsil eden mülkiyet ilişkileri bu bağlamda, kent formunu oluşturan en küçük birimlerle birlikte incelenmeli ve kent tasarımcısı ve plancısının ana tasarım/planlama/koruma aracı olmalıdır. Bu tez çalışmasında, bu bağlamda, kent morfolojisi ile mülkiyet ilişkileri arası ilişkiler irdelenmiştir. İlk önce, kent morfolojisi teorileri araştırılmıştır. Temel morfoloji ekollerini oluşturan İngiliz, İtalyan ve Fransız ekollerinin yaklaşımları açıklanmıştır. Tüm çalışmalarda ortak kanı; kent formunun sokak, bina ve parsel bileşenlerinden oluştuğu, kent biçiminin ancak farklı ölçekteki haritalar üzerinden incelenebileceği ve kent formunun sürekli dönüşümü içinde tarihi süreç çerçevesinde ele alınması gerektiğidir. İngiliz Morfoloji Okulu yaklaşımlarının temelini oluşturan M. R. G. Conzen'in teorileri ve çalışmaları detaylı olarak incelenmiş, kentin özellikle tarihi periyotlarına göre incelendiği, kent planı analizinin ana birimlerini oluşturan sokak, bina ve parsel dokuları üzerinde durulmuştur. Teorik araştırmanın ikinci bölümünde, mülkiyet kavramı, oluşumu, yasal bir hak olarak tanımı ve mülkiyet ilişkilerinin kent, planlama ve yasal süreçteki etkileri incelenmiştir. Mülkiyet ilişkilerinin; kentsel mekânın oluşum sürecindeki gibi üretim ilişkileri dâhilinde oluştuğu, kamusal ve özel mülkiyet kavramlarının yasal haklar çerçevesinde mekânda tanımlandığı ve kent planlama ve tasarım süreçlerinde mülkiyet ilişkilerinin temel araç olarak varlığı belirtilmiştir.

Tüm bu teoriler ışığında, İstanbul Tarihi Yarımada'nın morfolojik değişimi genel olarak değerlendirilmiştir. Bu çalışma alanının seçiminde, kent biçimindeki sürekli değişimlerin mülkiyet ilişkilerindeki değişimlere de bağlı olarak incelenebileceği bir bölge olması esas alınmıştır. Bizans döneminden günümüze kadar gelen süreçte, Tarihi Yarımada'nın geçirdiği dönüşümlerin kentsel mekânda yarattığı etkiyi morfolojik bir çalışma kapsamında ele almak amaçlanmıştır. Özellikle Beyazıt, Aksaray ve Yenikapı bölgeleri, Ordu Caddesi, Atatürk Bulvarı ve Yenikapı limanı gibi önemli ulaşım odaklarının çevresindeki kent dokuları ile detay çalışma alanı olarak seçilmiştir. Detay alanların seçiminde, Ordu Caddesi'nin Tarihi Yarımada'nın omurgasını oluşturması ve bu alan ve çevresindeki fiziksel dokuda, Bizans, Osmanlı ve Cumhuriyet dönemlerinde süregelen değişimler göz önüne alınmıştır. Erken Cumhuriyet döneminde yapılan planlama çalışmaları ile Tarihi Yarımada'yı kuzey-güney doğrultusunda ikiye bölen Atatürk Bulvarı ve tarihi kentin en önemli eski ticari limanı olan Yenikapı civarında, günümüzde hala devam eden dönüşümler dikkate alınmıştır.

Beyazıt, Aksaray ve Yenikapı çalışma alanlarında, morfolojik değişim, yapı adası bazında incelenmiştir. Araştırmanın yöntemi, bir dizi teori ve uygulama pratiklerini izleyen, kentin oluşumunu ve dönüşümünü özetleyen tarihsel süreç incelemesi; detay çalışma alanlarının kent dokularının yine tarihsel süreç içerisindeki değişiminin metin ve haritalamalarla irdelenmesi; detay alanlarda kent bloğunun ana bileşenleri olan sokak, parsel ve bina ilişkilerinin fiziksel ve mülkiyet durumu açısından analizleri ve Conzen'nin tarihi kentlerin morfolojik çözümlemesinde kullandığı morfolojik bölgeleme çalışmasından oluşmaktadır.

Yapılan araştırma sonucu, detay çalışma alanlarının kent dokusundaki fiziksel dönüşümleri, mülkiyet ilişkileri bağlamında ayrı ayrı incelenmiştir. Üç alan da Bizans dönemindeki kent formunu, Osmanlı döneminde genel olarak kaybetmiştir. Aksaray ve Beyazıt çalışma alanında, özellikle Beyazıt Meydanı ve çevresinde, cami, külliye, han ve ticari birimlerden oluşan bir doku gözlemlenirken, liman bölgesi olan Yenikapı'da uzun yıllar bostan alanları varlığını sürdürmüştür. Özellikle, Aksaray bölgesindeki yangınlar sonucu yok olan kent dokusunda, 19. yüzyılda yasal düzenlemeler ve planlama deneyimleri ile modernleşme sürecinin mekânsal yansıması olan ızgara sokak sistemleri, yol genişletme çalışmaları gibi düzenlemelere gidilmiştir. Bu dönemde, parsel mülkiyeti sahipliği yasal düzenlemelerle tanınmaya başlanmıştır. Cumhuriyetin ilk yıllarında, Avrupalı mühendis ve plancıların çalışmaları ile kentler yeniden şekillenirken, İstanbul Tarihi Yarımada'da Prost planı ile belirlenen ulaşım ağı düzenlemeleri, tarihi kentin yapı adalarını kaçınılmaz bir biçimsel dönüşüme uğratmıştır. 1950lerden sonra, Menderes'in İstanbul üzerindeki yoğun imar hareketleri içerisinde Tarihi Yarımada'da Ordu Caddesi'nin genişletilmesi, Atatürk Bulvarı'nın, Vatan ve Millet caddelerinin açılması ile Tarihi Yarımada'nın kent dokusu yeniden ciddi değişimlere uğramıştır. Günümüze yaklaşırken, tarihi kenti direkt olarak etkileyen bu müdahalelerle benzer eksende olan ve Yenikapı üzerinde planlanan/uygulanan bir dizi büyük ölçekli projeler de incelenmiştir. Yenikapı'da yapılan dolgu meydan alanının Tarihi Yarımada bütününde yarattığı biçimsel değişim gözlemlenmiştir.

Çalışmanın bir sonraki aşamasında, mevcut kent formu üzerinde, kent bloklarının parçalarını oluşturan sokak, parsel ve bina ilişkileri çözümlenmiştir. Niceliksel olarak elde edilen parsel alanı ve sokak genişliği gibi verilerin yanı sıra, çalışma alanlarında oluşturulan tiplojik tablolarla, binaların sokaklarla ve parsellerle olan fiziksel ilişkileri ile yapıların komşulukları ve parsel sahiplikleri arasındaki ilişkiler örneklendirilmiştir. Kent formu bileşenleri üzerine yapılan bu analizlerin ardından, parsel sahipliği kapsamında ve çalışma alanlarındaki merkezi noktalardan alınan kesitler üzerinden; sokak, bina ve parseller incelenmiştir.

Bu incelemeler, Conzen'in kent bütününü oluşturan 3 ana analiz yöntemi ile güçlendirilmiştir. Kent planı, bina dokusu ve arazi ile bina kullanımı başlıkları altında, odak alanlarda yapılan analizler sonucu, mülkiyet dokusu analizi de eklenerek, Conzen'in morfolojik bölgeleme teorisi ve pratiği uygulanmıştır. Kent planı analizi çerçevesinde çalışma alanlarının mevcut 2011 halihazır haritaları üzerinde, 1935 tarihli Pervititch haritaları baz alınarak mevcut kent bloğu bileşenlerinin 1935 öncesi ve sonrası yapılma durumları tespit edilmiştir. Bina dokusu analizleri ile 3 boyutlu yapıların yapı malzemesi ve kat sayısı özellikleri belirlenmiştir. Arazi ve bina kullanımı çalışması ile mevcut bina ve arazi kullanım durumları değerlendirilmiştir. Parsel bazında mülkiyet sahipliklerinin incelendiği analiz çalışmaları da eklenerek, Beyazıt, Aksaray ve Yenikapı'nın morfolojik bölgeleri belirlenmiştir. Bu çalışmada, kenti oluşturan fiziksel parçaların tarihsel oluşumuna ve detaylarına göre hiyerarşik bir düzen oluşturulmuştur. Hiyerarşik bölgelerin oluşturulması için Tarihi Yarımada öncelikle bir bütün olarak ele alınmıştır. Dolayısıyla, Tarihi Yarımada, surları ile birinci derece bölgedir. İkinci derece bölgelerde kenti oluşturan ana bölgeler ele alınmıştır. Üçüncü derece bölgeleri oluşturan sokak/komşuluk birimleri ve dördüncü derece bölgeler olarak tanımlanan morfotipler, detay çalışma alanları olan Beyazıt, Aksaray ve Yenikapı'da belirlenmiştir.

Sonuç olarak, tarih içerisindeki planlama uygulamalarının ve kente yapılan doğrudan müdahalelerin kent formunda yarattığı değişim anlaşılmış ve devam eden güncel projelerle tarihi kentin kimlik kaybı tehlikesi gözlenmiştir. Bu bağlamda kentsel mekâna yapılan müdahalelerin mülkiyet ilişkiler çerçevesinde gerçekleştiği sonucu elde edilmiştir. Morfolojik bölgeleme yöntemi ile ise, analiz çalışmaları üzerindeki veriler kapsamında, Beyazıt, Aksaray ve Yenikapı'da karakter alanlar belirlenmiştir. Oluşturulan morfolojik bölgelerin kent planı, tasarımı ve özellikle koruma planlarına altlık olarak kullanılabileceği vurgulanmıştır.

1. INTRODUCTION

Urban space consists of physical, social and economic factors and transforms dynamically. Throughout history, urban space has become the social life itself and it has been shaped in regards to political and socio-economical features of the period. Its physical form is also affected by various parameters within a continuous transformation. As urban designers, planners and architects work on built environment as taking space within formal or functional bases, it should be managed by considering historical progress and the two folded influence between form and social activities. Particularly, in the morphological studies that are depended on urban form, it should be practiced by getting to the root of the urban form components. Larkham (2005) states the importance of recognizing urban form and it components as following: “Understanding the physical complexities of various scales, from individual buildings, plots, street-blocks, and the street patterns that make up the structure of towns helps us to understand the ways in which towns have grown and developed” (p.22).

Production and reproduction relations of the components of urban form are primarily bound to property concept. Recognition of property concept and property relations in understanding urban form transformations is the main concern of this thesis study. Because, owning or possessing things, which continue from the old ages up to today, brings the concept of property in terms of legal rights. As an outcome of production relations, form of urban space is directly influences from property relations. Elements of urban form cannot be read clearly through their configurational form. Thus, ownership patterns and property relations behind the configuration of the urban space become the main tools, in order to analyze and realize the morphological transformations in an urban form.

Urban morphologists with different backgrounds, as well as urban designers, suggest basic analyzing methods and work on urban landscape to manage more prospering and lively spaces from buildings to cities. While analyzing and designing urban form, the designer or planner has to understand legal tools accordingly. In the thesis, property concept, its relations and urban form components are examined by recognizing the direct connection among them.

1.1 Aim of the Study

While studying on the physical appearance of urban space, the relation between evolution of the urban form and ownership patterns helps the researchers to understand both the transformation process of the cities and the tools for new planning practices. The study of urban morphology provides the detailed examinations in this sense. Morphological analyses are supported with the property concept and property relations that represent the main production and consumption means of the societies. The concept of property is also the main tool for production and reproduction in urban space.

It is expected from this study to analyze the transformation of urban morphology in the historical urban fabrics of Beyazıt, Aksaray and Yenikapı regions in the Historical Peninsula in terms of property relations considering historical process of urban development. Thereby, the answers of the following questions become the content of this thesis study: How the property relations affect the development of urban form? What is the relationship between urban morphology and property relations? What are the morphological features of the urban form in the case of the Historical Peninsula? How the evolution and transformation of the urban fabrics can be understood in the historical process?

1.2 Theoretical Framework

Urban morphology concept arose as physical changes in cities began to occur as a problem of architects, designers, geographers, planners and sociologists. The first researches under concept of urban morphology were seen in 19th century European schools. As well as architectural and urban design approaches, urban geographers, such as M. R. G. Conzen, who directly worked on cadastral patterns and their organization in urban landscape, came forward with morphological studies. Moudon (1997) explains the scope of those analyses as following:

> Buildings, gardens, streets, parks, and monuments, are among the main elements of morphological analysis. These elements, however, are considered as organisms which are constantly used and hence transformed through time. They also exist in a state of tight and dynamic interrelationship: built structures shaping and being shaped by the open spaces around them, public streets serving and being used by private land owners along them. (p.3)

Within this theoretical framework, works of the morphology schools of British, Italian and French, presented the first and the most significant outcomes. While they researched forms of European towns, American schools (Chicago School of

Sociology) studied on processes of urban development in American cities. Each study was based on historical progression that was primarily considered by Conzen (1960). Additionally, elements of town plan, which Conzen emphasized in morphological studies, indicated physical components of urban blocks for designers.

Moudon (1994) asserts Conzen's thoughts as follows: "the town plan is to be analyzed over time in an evolutionary fashion. The fundamental unit of analysis is the individual plot. It is the basic element of the pattern of land subdivision and it acts as an organizational grid for the urban form" (p.297).

The physical attributions of built environment are influenced through legal enforcements. Urban morphology, which contains studies of urban blocks, should be considered within other parameters that constitute urban space. Considering property concept, Günay (1999) states that "How land is appropriated, divided, owned, possessed, used or abused, and reproduced, in fact build the town" (p.109).

Günay (2006) claims that, production of the urban form refers to two and three dimensional combinations. In order to reorganize or design parts that indicate identity of urban form, the property as a two dimensional data is a need for them to be reshaped or to be reserved. In this process, the form of private and public space of the city is settled. Therefore, the concept of development rights determines the three dimensional form through property reorganizations. As long as it creates the form and space of the cities, ownership structure and legal establishments like development rights influencing morphology of the urban spaces, indicates significant design problems for designers.

1.3 Methodology of the Study

Historical development examinations generate the morphological analyses of urban fabrics within a considerable extent. Therefore, methodological frame of this research constructed on detailed historical period examinations. Regarding this, two main research scopes are determined: exploration of transformation of urban fabric and analyses of urban form complexes. At the all analyses related these scopes, components of urban block; street, plot and building patterns are focused. The methodology is developed as an integration of existing morphological analyses of Conzen and typological examinations considering property relations (Figure 1.1).

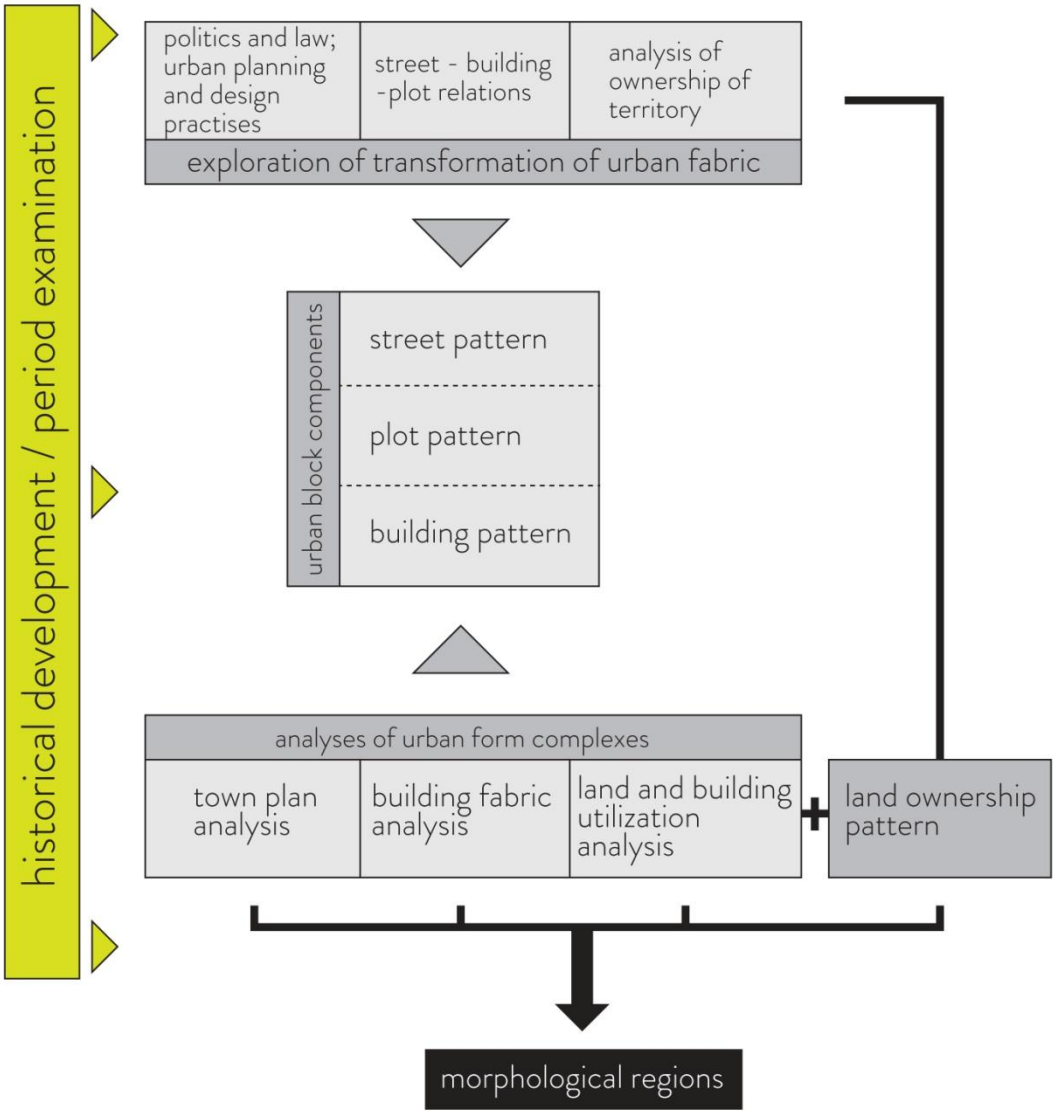


Figure 1.1 : Methodological exploration.

Methodology of this thesis study is constructed in 5 steps: literature review, historical development/period examination, analyses of urban block transformations based on property relations, analysis of urban form components and analysis of morphological regions.

Literature Review

Literature review constitutes the main methodology of theoretical research of this thesis study. For this morphological research study, literature of urban morphology theories, works of urban morphology researchers and urban form components are examined. Morphological approaches based on academic scholars are reviewed. In

order to find the answer of the thesis question that centres on the influences of property relations in the form of urban fabrics, Conzenian tradition as the origin of British school of morphology is scrutinized. Literature review proceeds on the concept of property and property relations in urban planning practice as well as historical urban development in the case of the Historical Peninsula.

Historical development / period examination

Historical development is the keystone of Conzen's morphologic approaches. Conzen states that there are no clear borders between periods in history of social, economical and cultural developments. He claims historical periods as: "usually momentary and punctiform origins and their potency as significant period indicates individually or as an interconnected group waxes with geographical spread and wanes through suppression by other innovations" (Conzen, 2004, p.62). Morphological periods in this sense, should be compatible to periods constituted based on historical analyzes or other approaches. As a synthesis of the literary view about historical process of urbanization and planning practice in Turkey and historical maps, the background of the morphological analyses are provided.

Analyses of urban block transformations based on property relations

Transformation of urban blocks in focused study areas, Beyazıt, Aksaray and Yenikapı, are examined within historical process. Based on the old maps, physical changes in urban fabrics are illustrated. Street, building and plot relations are analyzed typologically. Subsequently, ownership patterns and territorial examinations are shown.

Analysis of urban form components

Three form complexes are mapped by Conzen in his Alnwick and Ludlow studies by recognizing historical development of the study areas. These are town plan, building fabric and land and building utilization. Persistence of these components is differentiated. In town plan analysis, based on historically different maps, generation of three elements of building blocks; streets, buildings and plots are examined. In building fabric analyses, number of stories and building materials are analyzed. In land and building utilization, functions of the buildings and lands are mapped.

For these analyzes, data collection, mappings and explicating based on historical background of the study areas are practiced.

Analysis of morphological regions

Morphological regions represent homogeneous urban form complexes in themselves. Having same identical features in terms of evaluation of urban forms, morphological regions can be founded in town plans, building fabrics and land and building utilizations (Conzen, 2004). Historical stratification in old towns is a synthesis of plan units and building types in a direct way. Land use patterns, on the other hand, influence the town's historical development more indirectly. Within these three urban development complexes, morphological region examination is used as 4 hierarchical orders. First order is identified as the old town as a whole; second order is plan units; third order street units and fourth order morphotypes. Moreover, with the emphasis of property concept in the evolution of urban space and form, morphological regions are identified in the study areas. The morphological regions of town plan analyses are taken as primary data and the Historical Peninsula as a whole is analyzed In order to define first two hierarchical regions before the study of focused areas.

1.4 Scope of the Study

In this thesis study, the theories of urban morphology and property relations in relation to urban form are examined within theoretical statement. Following that, the case of Beyazıt, Aksaray and Yenikapı regions of the Historical Peninsula are analyzed and their influence of property relations on urban form are studied. The main criterion for selecting these areas is the rich historical background of the Historical Peninsula of Istanbul. Urban fabric of the Historical Peninsula is multi-layered as a result of being the homeland of different groups of societies during Byzantium, Ottoman and Republic periods. Since the purpose of the study bases on examination of morphological transformation in terms of property relations, the Historical Peninsula is decided as the most convenient research area. The Historical Peninsula is substantially a crucial urban conservation area as a result of being under continuous transformations of urban form, depending upon political and economical interventions, and planning approaches practiced through property relations. While there are many considerable urban fabrics with different characteristics in the peninsula for analyzing, the reason of the elaborated research in Beyazıt, Aksaray and Yenikapı is mainly based on the following criteria:

- Being on the most significant transportation routes and nodes of the peninsula

Beyazıt and Aksaray regions are located around Ordu Street which is the spine of the Historical Peninsula from Byzantium period (called as Mese) and Ottoman period (called as Divanyolu) to today, Republican period. Ordu Street provides the connection between the region of Sultanahmet and west part of the peninsula and it connects to Vatan and Millet Streets in Aksaray. The avenue crosses Atatürk Boulevard in Aksaray region and creates one of the networks of Galata region and the Historical Peninsula. This is also the connection between Aksaray and Yenikapı. Yenikapı region has been a port area since Byzantium period; even it lost its significance in that sense. It becomes the transportation node of the Historical Peninsula through new projects.

- The significant changes in urban block organizations

  These regions were shaped around the forums during Byzantium period. Urban fabrics of the each area transformed into organic patterns as a result of Ottoman domination. In the 19th century, with the modernization movement of the country, urban blocks of these regions are reorganized based on new plans – mostly after great fires –

- Their functional qualities in the city

  Beyazıt and Aksaray regions are commercial regions and they have several religious buildings, while Yenikapı region contains large vegetable gardens. Since the all areas also have residential utilizations, their main characteristics are different from the orther regions of the peninsula. Beyazıt region with Beyazıt Square serves as the transition route for users of Istanbul University as being different from the other two case study areas. Aksaray region is the where commercial use and hotels are seen dominantly. Yenikapı on the other hand contains an old Armenian neighborhood at the coast side.

- Having the most important interventions on the form of the city through planning policies, practices and property relations

  In these study areas, during each period of the regimes, physical interventions and legal enforcements changed the form of the city significantly and caused the transformations of urban block components and their organizations within aspects of ownership patterns and morphological features.

The thesis study consists of five chapters. The aim of the study, its theoretical basis, methodology on how to apply the case study and the scope of the research are explained in the first chapter.

In the second chapter, urban morphology approaches are probed, and different practices of urban morphology schools are examined. Conzenian tradition in urban morphology is explained and urban block concept as the basic morphological foundation is analyzed.

In the third chapter, relations between property concept and urban form are studied, as well as property concept and approaches to it as a right is discussed. Property relations are explained in reference to production relations in urban space, and effects of property relations on urban form within historical process is examined.

In the fourth chapter, the cases from Historical Peninsula; Beyzıt, Aksaray and Yenikapı are studied in the context of previous theoretical foundations. Morphological analyses are studied in regard to historical basis of the study areas. Based on Conzen's theories, the determined methodological analyses are practiced. Regarding this morphological regions of the study areas are identified in order to be considered in conservation studies.

The last chapter contains the conclusion part, in which form and property relations are explained. . The importance of recognition of this connection in urban design and planning practices are discussed. In this chapter, findings of the research are explained and a timeline is created in order to see the transformation in urban form with the reasons. Consequently, identified morphological regions are discussed in terms of urban conservation, planning and urban design studies.

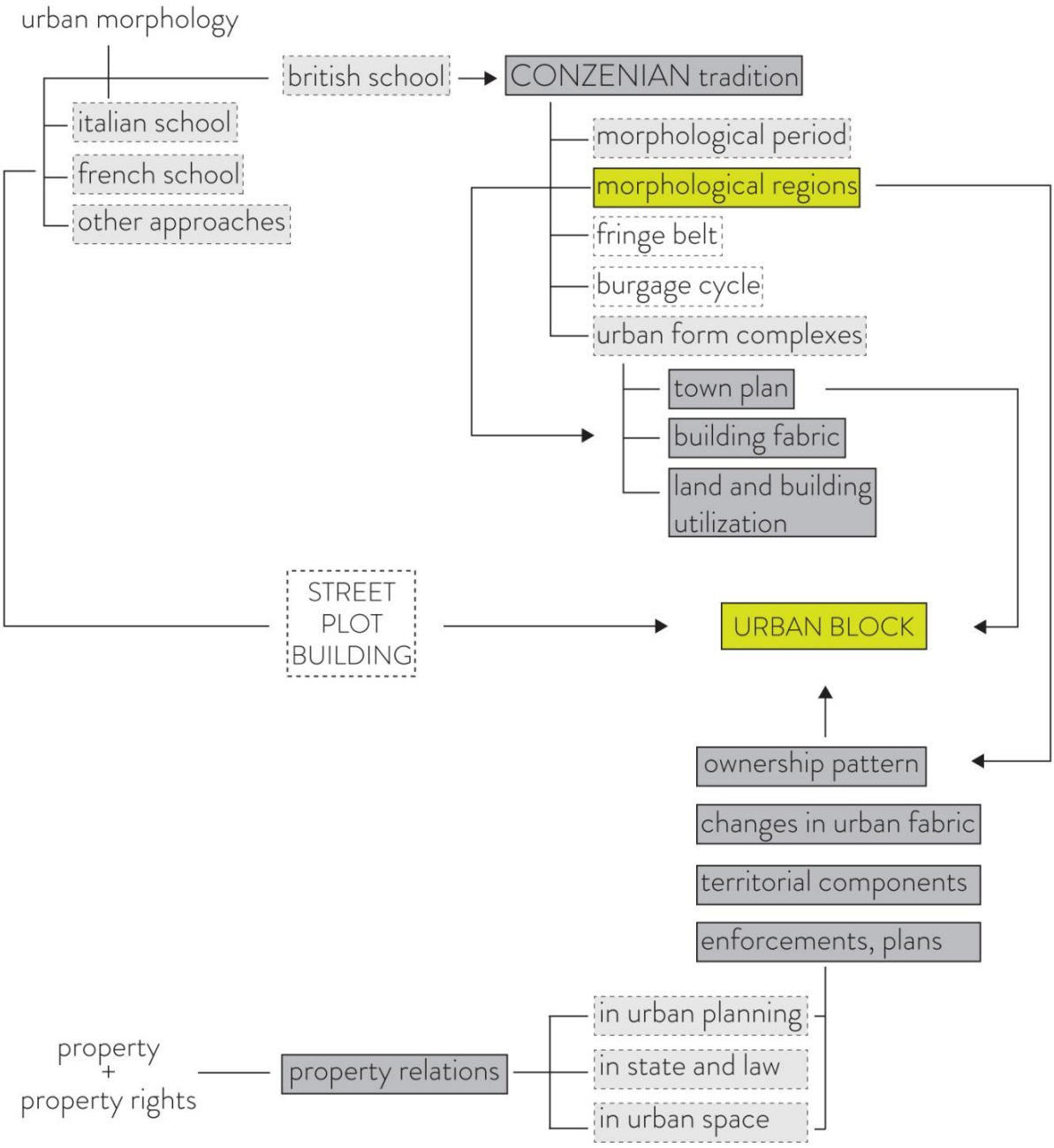


Figure 1.2 : Thesis structure.

2. THEORY OF URBAN MORPHOLOGY

The concept and practice of urban morphology has been studied for years in order to understand the influence of physical changes in urban spaces on people's behavior and historical process of urbanization. The term of morphology was first used in literary theory by German writer Goethe (Marshall and Çalışkan, 2011, p.412). The term signifies a handling of each part that generates even the essence of a whole. In urban studies, the morphology term denotes to the foundations which determine urban form. The definition of morphology is described as "the study of urban form" in The Dictionary of Urbanism (cited in Cowan, 2005, p.250). According to Larkham and Jones from Urban Morphology Research Group, morphology is; "the study of the physical (or built) fabric of urban form and the people and processes shaping it" (Glossary, 2012). Baş (2010) asserts the term of morphology as "the form of an object" and "the study of its form" and he continues "...it refers both to the object of the study and to the study itself" (p.15). Moudon (1997) explains the morphology and the purpose of studying urban morphology as "Urban morphology is the study of the city as human habitat… Urban morphologists concur: they analyze a city's evolution from its formative years to its subsequent transformations, identifying and dissecting its various components" (p.3).

2.1 Approaches to Urban Morphology

From regional scale to the building units, the changes and the transformations in urban space have been in consideration of urban researchers and architects since the late 19th century. The works on morphology of the cultural landscape practiced by Schlüter, the founder of German morphogenetic tradition of Central Europe, constitute the roots of urban morphological researches. Schlüter makes the urban landscape (Stadtlandschaft) the main subject of research by characterizing the morphology of cultural landscape (Kulturlandschaft) in human geography as equivalent to geomorphology in physical geography (Larkham, 1998). One of the students of Schülter, Geisler worked on the mapping of building utilization and number of stories in inner Danzig (1918) which influenced a German geographer named M. R. G. Conzen. In his dissertation, Conzen worked on the mapping different building types in Berlin by using different colours and various depths of

colour for expressing the number of stories (Whitehand, 2006). Before the Second World War, Conzen migrated to England (Moudon, 1997). He began to work on English towns with the inspiration of his study of Berlin (Whitehand, 2006). The works and ideas of Schlüter are extended by M. R. G. Conzen and the studies are expanded in the English-speaking world (Larkham, 1998).

2.1.1 British school approach

Conzen contributed various terms of urban morphology throughout his researches. He propounded a tripartite division of urban form. He explained the concepts as the town plan, building fabric, and land and building utilization which also indicated the urban development process. Besides these basic conceptions, he also studied the concepts of burgage cycle, fringe belt, and morphological region (Whitehand, 2006).

Conzen's researches and conceptualizations became study subjects for subsequent researchers, like Jeremy Whitehand. Urban Morphology Research Group, founded in 1974 in University of Birmingham, has followed the tradition of Conzen by working on both studies about medieval towns and today's urban development (Moudon, 1997). Following this, the fundamental conceptualizations of Conzen are explained in the previous section.

2.1.2 Italian school approach

Such as Conzen's study of urban morphology based on geographical approach, there were other researchers who worked on morphology in other aspects. In Italy, Saverio Muratori, an Italian architect, worked on Venice and Rome to constitute theoretical foundations in his architectural design studios (Moudon, 1997). He was a philosopher as well as an architect. Muratori believed that the evolutionary process of architectural units is bounded to pre-existing urban structures. He criticized Modernist approaches in architecture, as disregarding the former knowledge of construction and forms (Marzot, 2002). "Hence, with the concepts of environment and adaptation, Muratori's vision is extended to the building scale, no longer focusing on individual buildings, but on their context. Historical buildings therefore have to be protected from undue intrusion, which could threaten them and, in the long run, destroy them" (Cataldi, 2003, p.24). Ideas and works of Muratori later influenced several architects like Aldo Rossi. However, during his academic life, his approach to architecture and urban design made him isolated within other researchers (Moudon, 1994).

Gianfranco Cannigia, an assistant of Muratori, continued the tradition of Muratori. He was also focused on the type of buildings (Moudon, 1997). He endeavored to transfer the ideas of Muratori to architectural practice. The expression and significance of the terms of ‘type’, ‘building fabric’ and ‘basic building’ are what Cannigia focused on, in order to create a basic theoretical system (Cataldi, 2002). Considering human environment as an outcome of built objects, he described them in various scales building (edificio), the group of buildings (tessuto / building fabric), the city (citta) and the region (territorio). According to Moudon, Italian school did not use the concept of morphology since they believed that urban form was not an object to study. Instead, they used the term “type”, defining it as the conceptual existence of an object (Moudon, 1994).

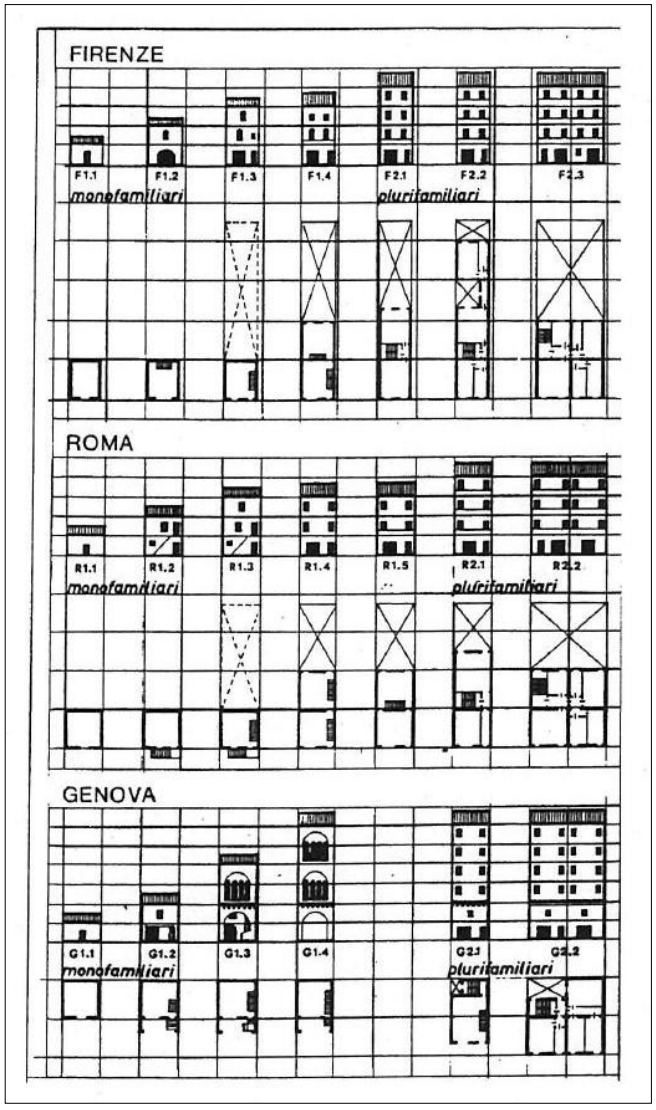


Figure 2.1 : The diachronic mutation of house types in Florence, Rome, and Genoa by Caniggia, 1979 (Moudon, 1994, p.293).

The architects Rossi and Aymonino made a claim of modernist and traditional cities. In their opinion, the two separate cities differentiated “in the ways of individual buildings related to the city as a whole, and in the ways individual buildings were designed” (Moudon, 1994, p.293). “According to Rossi, urban form is the result of a patchwork in which different features are stitched together” (Marzot, 2002, p.66). Since the morphological and cultural evaluation of a city caused the existence of urban artifacts, Rossi (1931) represents them as primary elements of urbanization.

Aymonino studied the Enlightenment period in which the crisis of architectural identifications appeared. He focused on taking the historical urban model apart, in order to replace it with decentred strategy. Consequently, the works of different Italian researchers constituted a link between tradition and innovation in design projects. On the existing urban patterns, theoretical or practical design approaches were implemented with typological studies (Marzot, 2002).

2.1.3 French school approach

The philosophy of Muratori influenced the researchers from The Versailles School of Architecture. They focused on the concept of “type” and they defined it as an abstract of object built through analyses. They worked on building classification in order to search for exemplary patterns or groups of similar patterns. The Versailles School suggested two categories of building types; consecrated types (like Roman villas and cathedrals) and typical plans representing the standards for future design productions (not the traditional ones). Through examining the features like volumes and functions, the typology concept is developed. Typological approach and morphological criticisms constituted the basis of architecture and urban design theories of researchers beginning with 1960s, especially considering the design policies applied in the damaged countries after the Second World War. Researchers like Panerai, Castex and DePaule criticized modernist architecture by asserting that modernism caused irredeemable breaks from the origins of architecture and past traditions. In France, the criticism and the development of the theories were taken not only by the geographers or the architects, but also the sociologists, historians and planners. Different disciplinarians of urban studies came together to research on all design, geography, literary and social perspectives (Moudon, 1994).

The critics of Henri Lefebvre, the father of the urban sociology, also affected the French school. Lefebvre emphasized on stratified morphology; “One can speak of a stratified morphology whenever definite forms composed of discrete units are embedded within one another in a definite order” (Lefebvre, 2009). “ He argued that

contemporary construction and house production methods crushed people's natural instincts for appropriation and weakened the relationship between people and their environments" (Moudon, 1994, p.301-302).

Both physical form and its social use became a concern of French school of morphology, in order to lead urban designers to the best practices for the built environment. Therefore, researchers studied urban space as in three parts: private space, collective space and public space. According to them, each of the parts refers to a specific form of social use (Panerai et al., 2004).

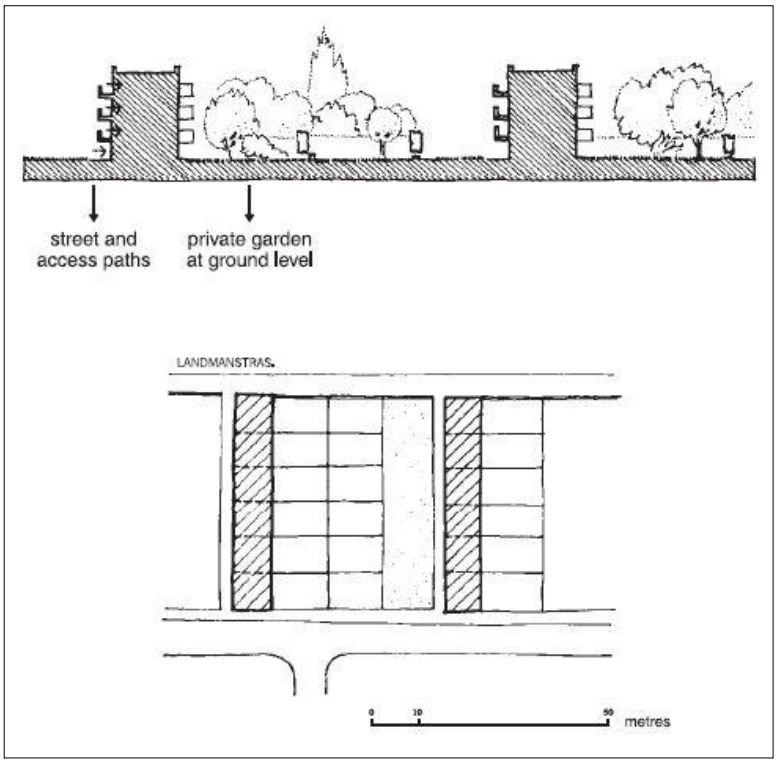
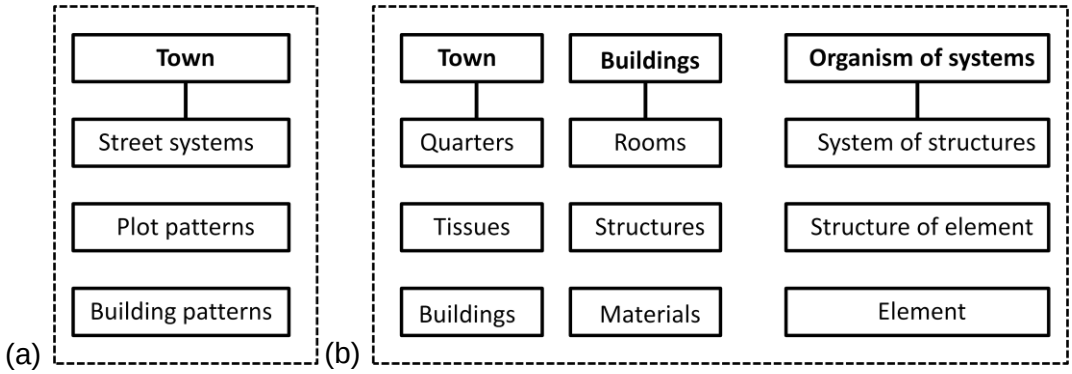


Figure 2.2 : Section and plan "showing the use of space between private and collective gardens" (Panerai et al, 2004, p.104).

Moudon (1994) drew attention to the concept of "typomorphology" referring the studies and conceptualizations of three schools. She described typomorphology as both typological and morphological since the approach contains analyses of urban form in detailed classifications. She says that typomorphology reveals volumetric characteristic of built landscape. Also, it provides a balanced connection between the scale of building and city. Finally, she asserts that the approach mainly based on morphogenetic concept, since the formations of each detail occur in "time" (Moudon, 1994).

Table 2.1 : Steps of morphologic analysis(a) and typomophological analysis(b)



The schools briefly explained above recognized conceptions regarding their studies according to the disciplines of researchers. Their common points and differentiations are examined by subsequent researchers. Moudon explains (1997), the three schools of morphology mentioned above can be summarized as follows:

- British School: Practiced by geographers (like Conzen, Whitehand) in the study of urban form for descriptive and explanatory purposes in order to develop a theory of city building. They examine how and why the cities are built.
- Italian School: Main figures are architects (like Muratori, Cannigia, and Rossi) and they emphasize the study of urban form for prescriptive purposes to develop a theory of urban design. Their main concern is to answer how the cities should be built.
- French School: Concerned by sociologists, architects, geographers, planners (like Panerai, Castex, Lefevbre) in the study of urban form to assess the impact of past design theories on city building. What should be built and what has actually been built are their main research questions (Moudon, 1997).

Baş (2010) implied that urban form studies cannot dissociate sharply from each other as descriptive and explanatory. Therefore, he categorizes the morphological studies into normative or substantive. In the normative studies, architects and urban designers are main figures. They emphasize the physical form and its impacts on the human behavior. The identifications on urban form of architects and designers are split into two groups of analysis as the objective morphology and subjective morphology. On the other hand, substantive approaches are taken hold mostly by geographers, historians, urban sociologists, planners etc. They emphasize the continuous change of urban form. Therefore, the changes are analyzed in different methods according to the viewpoints of researchers (Baş, 2010).

The common inferences of all these morphological approaches can be explained as such (Moudon, 1997, p.7):

1. Urban form is defined by three fundamental physical elements: buildings and their open spaces, plots or lots, and streets.
2. Urban form can be understood at different levels of resolution. Commonly, four are recognized, corresponding to the building/lot, the street/block, the city and the region.
3. Urban form can only be understood historically since the elements of which is comprised of continuous transformations

2.1.4 Other/further approaches

Where in Europe, these three schools of morphology are grounded, there was another approach to urban forms which is founded in Chicago School of Sociology in the United States. Within the concept of human ecology identified by Park and further the zoning models of Burgess, Hoyt and Harris, different urban process zones are suggested by the researchers. Their theories developed on central business district areas, represented the commercial core of the city and mostly contained the oldest formations of the townscape.

The architect, planner and urban theorist Rob Krier explained his theories about the negative influences of Industrial Revolution on ecology of urban landscapes and especially the historical centres that are identifiable for their morphological structure and typology. He asserted that the parts of cities are fragmented both spatially and functionally through Industrial Revolution and the effects of Modernism. Therefore, he suggested balanced urban quarters in the manner of architecture and morphology with a legible hierarchy between the units of towns (Krier, 1984).

Another theorist and architect Christopher Alexander claimed that urban development happen like the growth of biological cells. These approaches of him, called morphogenesis and emergence, became the subject of scientist and mathematicians (Alexander, 1977).

Mathematicians or other researchers from different backgrounds had continued interest in urban landscape and its morphological analyses with different approaches. Fractal analysis and space syntax methods are mostly known conceptions and methods referring mathematical and technological basis (Baş, 2010).

2.2 Conzenian Tradition

As a geographer, M. R. G. Conzen's studies on urban morphology and his conceptualizations of morphology constituted the 'Conzenian' tradition. As mentioned in general approaches to urban morphology before, Conzen began his first morphological study on his Staatsexamen dissertation (1932) in the University of Berlin. He categorized the building types and number of stories by coloured mappings (Whitehand, 2001). His studies progressed after he had immigrated to England to work as a town planner in the University of Manchester. He gave lectures in the university during the Second World War, and then moved to King's College. Conzen worked on mappings which show characteristics of the forms and periods of the towns in northeast England. Cartographic representation of Conzen and his concern of historical periods of buildings are developed in his study named 'A Survey of Whitby.' 'Alnwick study' (1960), a very significant study of Conzen, which contains a detailed geographical analysis of the plans of Alnwick, determined the conceptualizations of morphology within his tradition (Larkham, 1998). Whitehand (2001) states his influences, as follows:

> Permeating all Conzen's work was a concern for terminological precision. In this respect, the contrast between Conzen and most of his British colleagues was striking. For Conzen, terms were created to represent concepts as faithfully as could be archived within the limits of language. This meant exploring the roots of words. It also, of course gave primacy to concepts. (p.104)

The concepts that are developed by Conzen primarily characterized within morphogenetic method, historical development, terminological precision, and cartographic representation, as indicated by Whitehand (2009). Regarding this, the main conceptual approaches of Conzen including town plan analysis, morphological region, the fringe belt, and burgage cycle are explained in this chapter.

Conzen defined the main determinants of urban landscape in three parts: the town plan (or ground plan), building fabric (the 3-dimensional form) and land and building utilization. This tripartite division of urban landscape contains the conceptualizations for examining the process of urban development. He asserted that the persistence of the townscape determinants differentiated in time. Land and building utilization is primarily open to change in the townscape. Building fabric is more resistant to change. Lastly, the town plan represents the strongest persistence. Conzen was principally interested in town plan analysis and stated that the town plans are the expression of the framework of all manmade structures (Moudon, 1994; Whitehand, 2001; Conzen, 1960).

The town plan is composed of three elements as Conzen (1960) explained:

1. Streets (and their arrangement in a street-system)
2. Plots (and their aggregation in street-blocks)
3. Buildings (or their block-plans)

Streets refer to the open spaces bounded by street-lines and they all generate the street system in a town plan. Street-blocks are the plots which are explained as a unit of land use with physically determined boundaries. Conzen (1960) defined the arrangement of plots as plot pattern. Lastly, block-plan or buildings are the elements of the town plan which defined on the land by lines of the walls as Conzen stated.

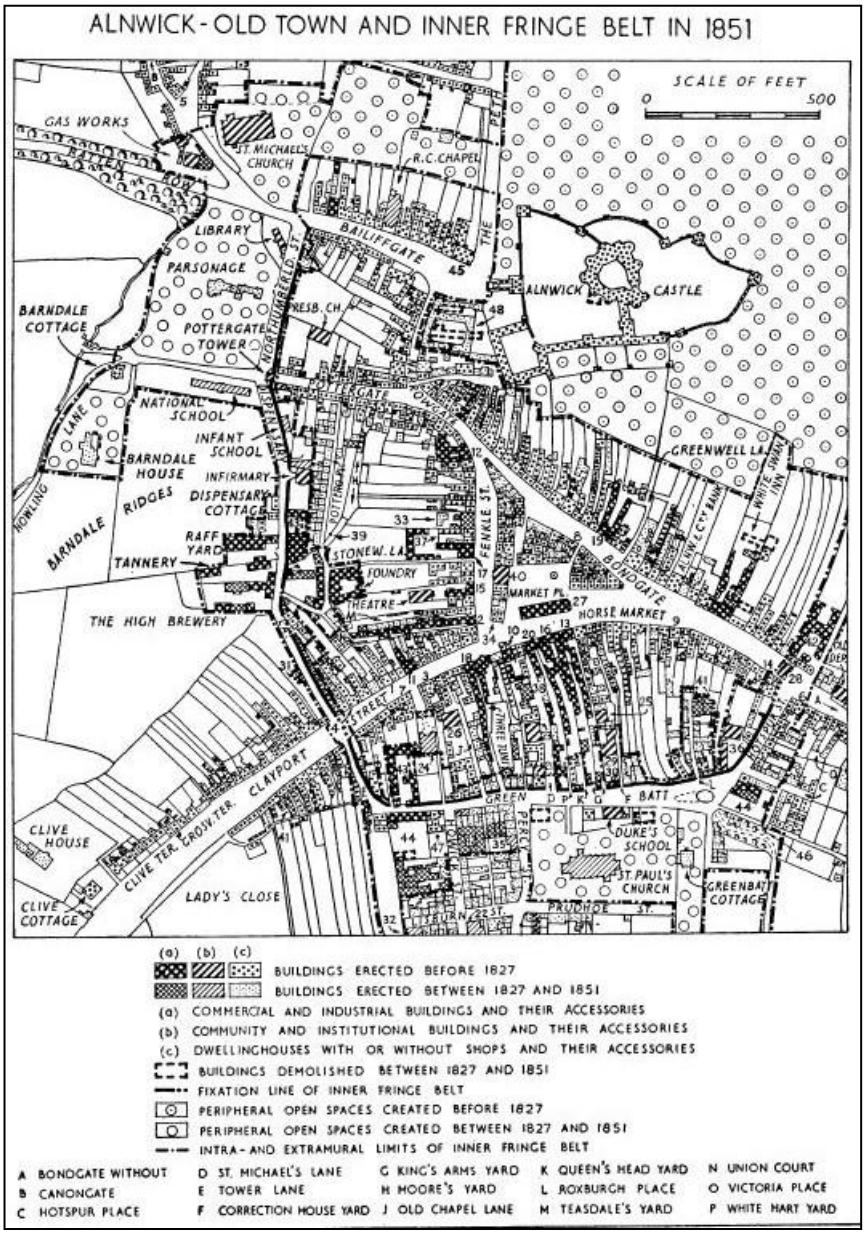


Figure 2.3 : Town plan analysis of Alnwick showing old town and fringe belts in 1851 (Conzen, 1960, p.62).

These three elements, “which all fit one into the other as a precise puzzle” (Moudon, 1994, p.297) indicates the plan-unit by homogeneous parts comprised of various combinations of three elements. Conzen claims that since the town plans cannot be thought beyond the physical and human context, the analysis of town plans requires both physical conditions and socio-economic indications (Conzen, 1960). Plan units which are found in composite townscapes also represent the stratifications of the townscape. The combinations of street, plot and building types are the essence of plan units. In reference to this, plan unit also indicates urban fabric; the conceptualization of Cannigia from Italian tradition of morphology, although Cannigia has not explained the characteristics of urban fabric (Moudon, 1994).

2.2.1 Morphological periods

Conzen’s studies might be described as analyzing historical periods of the settlements, which refer to the concept of morphological periods. He demonstrated the concept by concerning the economic and social developments of the cities and their influences on physical environment as well as the cultural activities. According to Conzen (1960), morphological periods can be observed both in town plans and in the building fabrics. According to Whitehand (2009), “They are a major feature not only of the way in which new forms are added at the edges of cities, but also of internal changes to, and replacements of, existing forms” as Whitehand states (p.9). Moreover, through working on the towns within their morphological periods, Conzen also observed the persistence of three components of urban landscape that he defined (Whitehand, 2009). In view of Whitehand (2001), morphological periods have the same function of typological process which is found by Italian architects of Caniggian tradition, because both of the conceptions figure out the previous formations for future analysis.

2.2.2 Burgage cycle

The works of Conzen principally centred on historical towns like Alnwick (1960). One of the conceptualizations of him, which is called as “burgage cycle” by Conzen, is developed in Alnwick study. While studying on historical processes of town plans of Alnwick, Conzen (1960) claimed that the outlines of the town plans within historical process could be adapted to the newer functions. For the analyses of towns of the Middle Ages, he indicated the need to preserve the medieval pattern in modified form. He claimed that the units of that pattern were burgages which are the urban plots containing the houses and yards of burgess and having no front-gardens. Burgages were obligated to fixed annual rent as an enforcement of borough taxation

(Conzen, 1960). In the Dictionary of Urbanism, the term is defined as; approximately thirty feet wide long and narrow plots of burgess in a medieval town (Cowen, 2005). According to Conzen's definition of burgages; they are "long narrow strip-plots laid roughly at right-angles to the street-line and parallel to each other. They tend to be oblongs, but are often locally deformed in adaptation to site conditions" (Conzen, 1960, p.28).

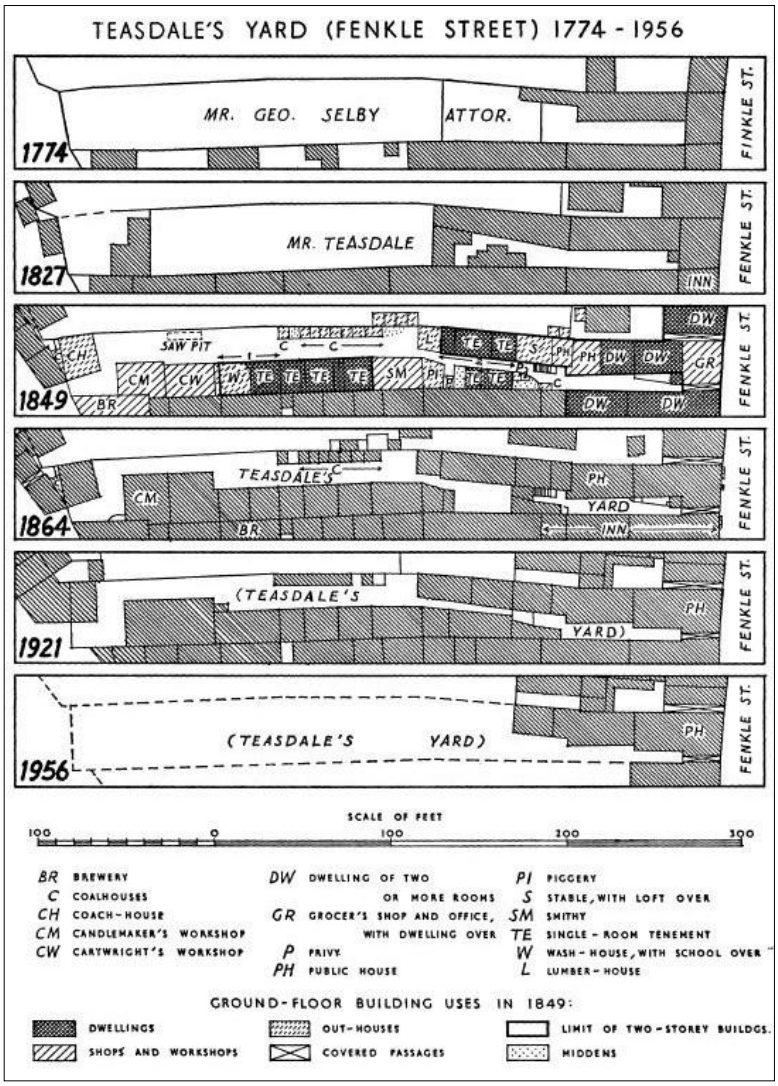


Figure 2.4 : Burgage cycles, Alnwick, Northumberland (Conzen, 1960, p.68).

Conzen believed that the growth and changes in a medieval plan could be examined through burgage patterns. He clarified a redevelopment cycle beginning with slum clearance observed in burgages. In his study of Alnwick, he explained the example of Teasdale's Yard. According to his findings, the burgages of Teasdale's Yard represent the minority of the changes in the Middle Victorian Period. Development of the site continued slowly until 1921. In 1937, the plan of area changed radically as a result of slum clearance. From the houses to the fences, which defined burgage

boundaries, are demolished. The building coverage of Teasdale's Yard almost indicated the same characteristics of 1700s. Therefore, Conzen identified institutive phase of the cycle, as merging of burgages like a unique plot. During the Industrial Revolution, building coverage increased and constituted a repletive phase, which ended at a climax phase. By virtue of revaluation of existing buildings and their uses recessive phase took place. Finally, the building coverage decreased down to the beginning stage. Conzen asserted that burgages are wasted at the end of the cycle in terms of formation of the land and socio-economic process and as a consequence, he called it *urban follow*. The whole process which represents a general phenomenon which is significant in British urban morphology is defiantly cyclic in Conzen's thought. Accordingly, he stated it as burgage cycle (Conzen, 1960).

Larkham (1998) identifies the burgage cycle briefly, as: "the progressive filling-in with buildings, leading to a climax phase of maximum coverage and, ultimately, the clearance of plots preparatory to redevelopment" (p.163).

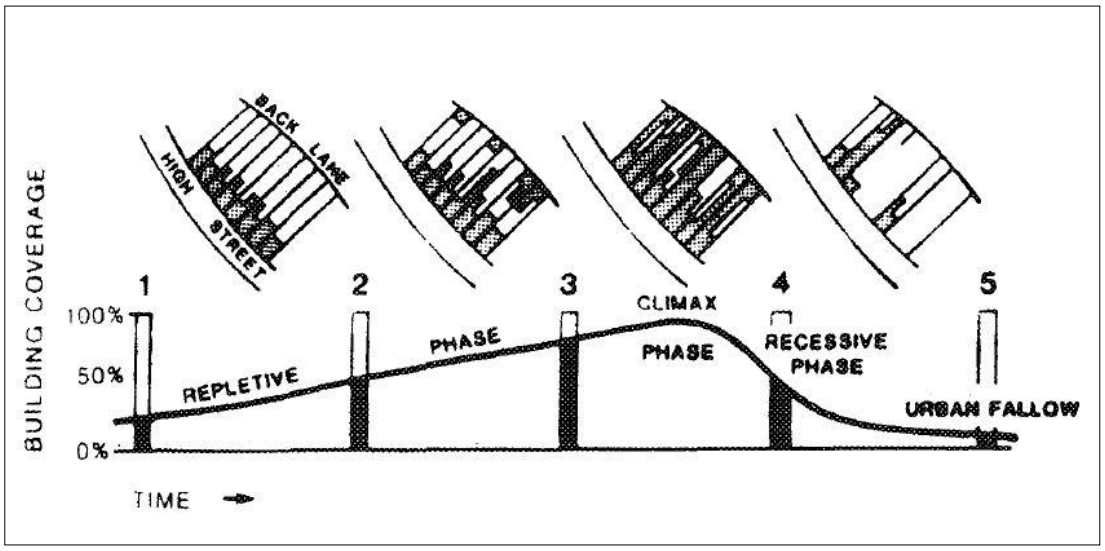


Figure 2.5 : Phases of burgage cycle (Larkham, 1998, p.170).

Whitehand (2007) adds that: "As aspect of burgages, and of plots more generally, that particularly attracted Conzen's attention, and subsequently attention of others, was their dimensions. These can be subjected to metrological analysis, which affords an important means of reconstructing the histories of plot boundaries" (as cited in Lafrenz, 1988, p.ii-03). Conzen's detailed analyses on boundaries and dimensions of plots are developed by Slater with metrological analyses, representing the formations of original plots and their subdivision (Whitehand, 2001).

2.2.3 Morphological frame

According to Conzen (1960), previous plans including plot and street patterns have influence on the following plans. Therefore, Conzen recognized morphological frame as the concept for describing field patterns in a subsequent urban development. Larkham and Jones explained the term of morphological frame as follows: “An antecedent plan feature, topographical outline, or set of outlines exerting a morphological influence on subsequent more or less conformable plan development, and often passing its features on as inherited outlines” (as cited in Conzen, 1969, p.127). Likewise, Whitehand draws attention to the traces of plot and street patterns by concerning that they remain as unchanged or otherwise their lineaments are reflected in new forms. Moreover, the concept can be observed in the cases, which represent the process of conversion of rural lands to urban use (Whitehand, 2001). The Alnwick study of Conzen indicates that with regard to the periods and different localities, morphological frames are varied (Conzen, 1960).

2.2.4 Fringe belt

Regarding the concept of morphological frame, the concept of urban fringe belt is also developed by Conzen. The concept was first identified cartographically by Louis (1936) in Berlin. He works on the zones in Berlin according to their historic-geographical developments. As Conzen (2010) explains that Louis divided the areas considering “how densely formed they were, and labelled them variously as heterogeneous built-up zones, industrial belts, allotment garden districts, villa quarters, and absorbed former village centres” (p.31).

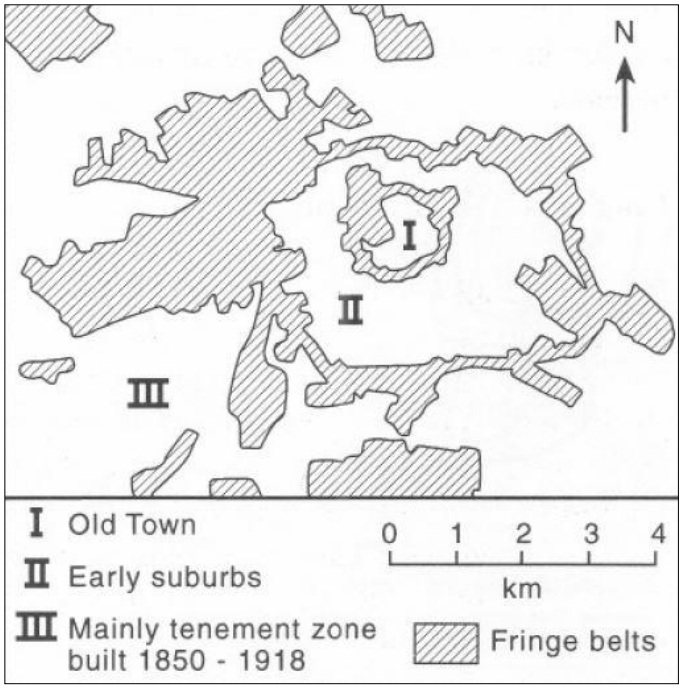


Figure 2.6 : Map of Louis showing fringe belts of inner Berlin (Whitehand, 2001, p.105).

Fringe belts, having different plot dimensions and shapes, represent the zones appearing both in the slumps of house building and the rise of house building with a high density. When economic conditions are well, residential buildings get expansive since purchasing power increase and the buildings spread to the new urban periphery. On the other hand, at the times of economic slumps, institutional developments can purchase lands within fringe belts. The plot sizes of the fringe belts are larger compared to the plots of residential areas. With fewer road crossings, they are less fragmented areas. Their boundaries generally refer to a field boundary (Conzen, 2009; Whitehand, 2001). As Larkham (1998) stated; “they tend to be used initially for purposes requiring large sites and having a little need for accessibility to the commercial core” (p.163). In the Alnwick study (1960), Conzen focused on embodying the patterns of fringe belts, considering formations and transformation in the process of urban development. As Conzen (2010) explained, the characteristics of fringe belts generally are found in less dense, large areas containing urban uses like parks, vegetated areas, cemeteries, military barracks, sports fields, villa estates. Whitehand, later, began to work on the concept of fringe belt, hence he is enlightened by previous works. His studies head for urban economies through examining the connection between urban fringe belts and dynamics of urban construction cycles. Therefore, the fringe belt interactions have been shaped around agents like landowners, planners, developers etc., in the studies of Whitehand (Conzen, 2010).

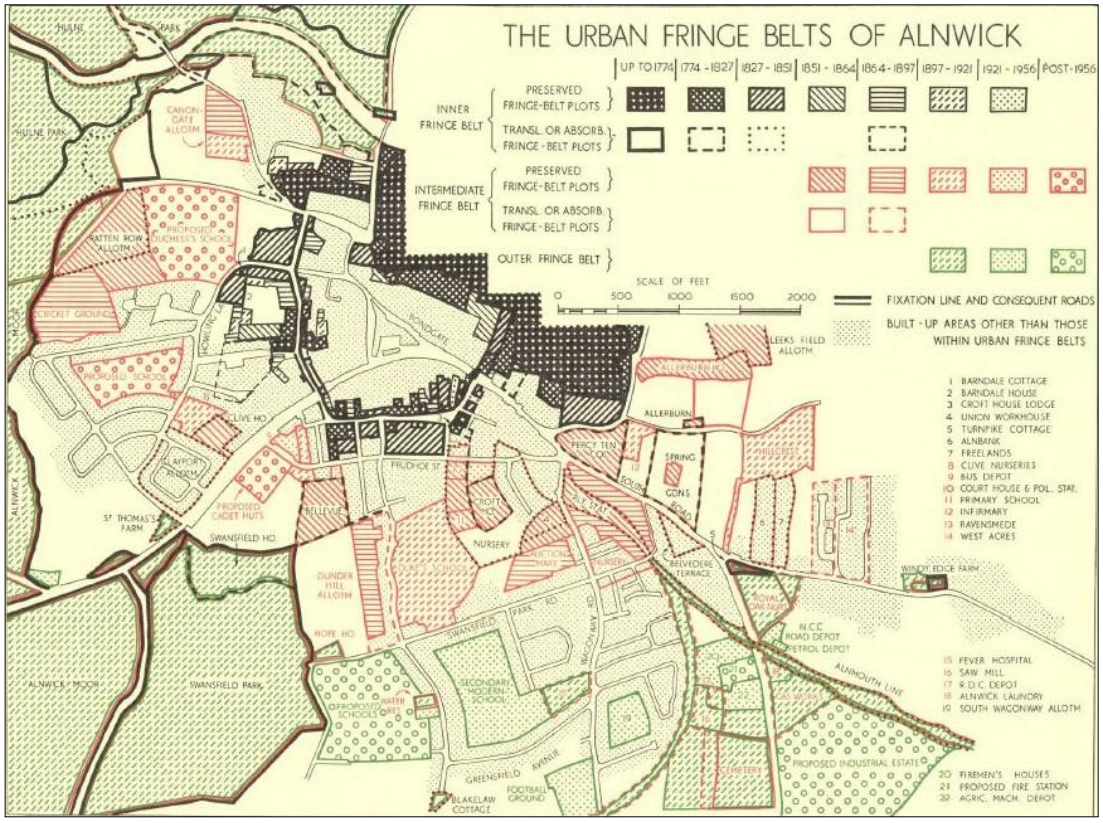


Figure 2.7 : Fringe belts of Alnwick (Conzen, 1960).

2.2.5 Morphological regions

The morphological approach of Conzen mainly centred on historical development of town plans. In terms of physical development of an urban area, he demonstrated the climax of his town plan based exploration as the morphological region as Whitehand (2001) asserts. As explained by Larkham and Jones, morphological region is “an area of homogenous urban form in terms of plan type, building type and land use” (as cited in Conzen, 1975). Whitehand states that: “A morphological region is an area that has a unity in respect of its form that distinguishes it from surrounding areas. However, the boundaries between regions vary in strength” (Whitehand, 2001, p.106) and he demonstrated Ludlow study of Conzen in which five-tier hierarchy of boundaries is defined by Conzen (Whitehand, 2001). In the first works of Conzen on morphological regions, delimitation of boundaries of the regions is not found as distinct. However, fourfold hierarchical regionalization method is used in following morphological studies by other researchers.

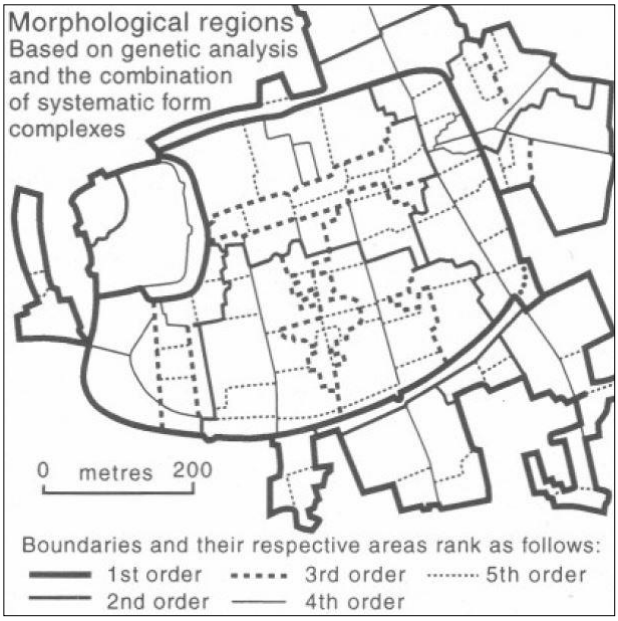


Figure 2.8 : Conzen's map illustrated the morphological regions in Ludlow (Whitehand, 2001, p.106).

The concept of morphological region has been studied by other researchers as Whitehand (2007) claimed. Regarding this, the conceptualization is not only studied in morphology based researches, but also planning studies in which mostly conversation plans are considered. Conzen believed that townscape or landscape development indicated a continuous process. Human activity recorded in urban space by the way of adapting or replacing them with new activities. Whitehand asserts that: "In this way the landscape becomes an 'objectivation of the spirit' of a society in a particular locale" (Whitehand, 2009, p.8). Hence, Conzen explained that morphological regions contain hierarchical orders beginning with morphotype as the smallest unit (as cited in Conzen, 1988).

Morphological region orders are mainly grouped in 4 by Conzen. These borders can be summarized as following:

- first order: the Old Town as a whole represents first order. Also, fringe belts or residential accretions can be involved.
- second order: predominately of the main plan units, urban quarters or small residential accretions
- third order: intermediate plan units or street units
- fourth order: minor plan units, building fabric cells, morphotypes

According to Whitehand's review on the study of Barret (1996), Barret examines the maps of the city centre of Birmingham recognizing plan units, building form units,

land use units as well as the combinations of these maps. In the study, the major plan units are represented by first order boundaries. They indicate the main formation of street and plot development; therefore they are highest ranking urban landscape units as Whitehand states. Plan changes or transformations within the first order shape the second and third orders. Farther, they represent the land use units and building units. Lastly, the forth orders contain minor changes and some differentiated building forms (Whitehand, 2009).

Figure 2.9 : Urban landscape units and morphological regions showing central Birmingham, England in 1970 by Barret, 1996 (Whitehand, 2009, p.11).

Whitehand (2009) draws attention to ground plans created considering Conzen's morphological region conception and urban landscape units in order to examine the historical evaluation of cities with the example of Sibiu, Romania. He explains the morphological regionalization in the example of central Sibiu. The plan-unit boundaries of Sibiu which is presented for inscription on the World Heritage List are demonstrated by the historical development of the city. Whitehand claims that Lower Town at the north and north-west has less regular, average smaller plots and less regular streets, whereas planned part called as Upper Town at the south and south-east contains more regular and average larger plots. Street-block seams showing following lines of streets, plot-tail seams representing backside boundaries of plots and plot-side seams showing sides of plots are presented in the map of Sibiu. From

this respect, plot pattern of Lower Town generally has boundaries following plot-tail and plot-side seams but the boundaries of plots of Upper Town shape following street-block seems (see Figure 2.10).

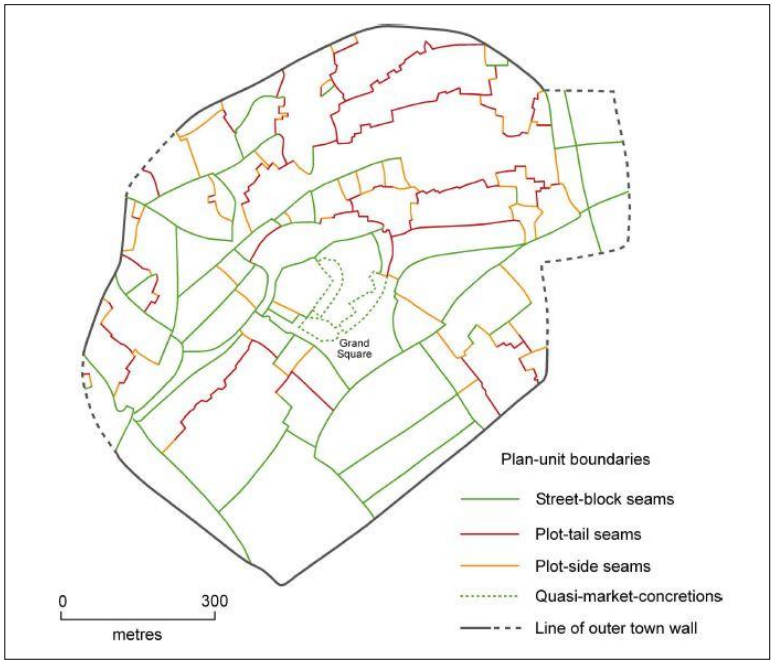


Figure 2.10 : Plan unit boundaries of central Sibiu, Romania, 1999 (Whitehand, 2009, p.12).

In the plans of parts of central Sibiu, Whitehand states the differences between two sides of the city. Less regular character of plan units in Lower Town refers to “series of plots backing on to one another with rear plot boundaries internal to the street block” (Whitehand, 2009, p.13). On the other hand; the plots of Upper Town extend from a main street to a back street (see Figure 2.11).

Figure 2.11 : Regions of central Sibiu, Romania, 1999 A) Lower Town B) Upper Town
(Whitehand, 2001, p.13).

Another study on morphological regionalization by Bienstman (2007) in central Alkmaar, The Netherlands is considered in terms of conservation planning. Bienstman defines hierarchical map of plan units, building fabric and land and building utilizations. She focused on town plan analysis and recognizes townscape regions of Alkmaar. The fringe belt area, being the final extensions of the town considered as first order, since it represents the most significant unit. The regions which are found restrictive within expansion of urbanization are declared as second orders. Streets and areas representing unity in them are third order whereas minor differentiations in the plan and building fabrics are considered as forth order. Following this, Bienstman criticizes the proposed plan of an urban design consultancy which suggests nine character areas for the purpose of creating a guide for planning decisions of the City Council. According to her, the proposed character areas are not representing the character areas in reality (Bienstman, 2007). As can be seen from the research examples, morphological regionalization method of Conzen provides a basis for conservational plans (Whitehand, 2009).

Figure 2.12 : Urban landscape units illustrated of central Alkmaar, The Netherlands (Bienstman, 2007).

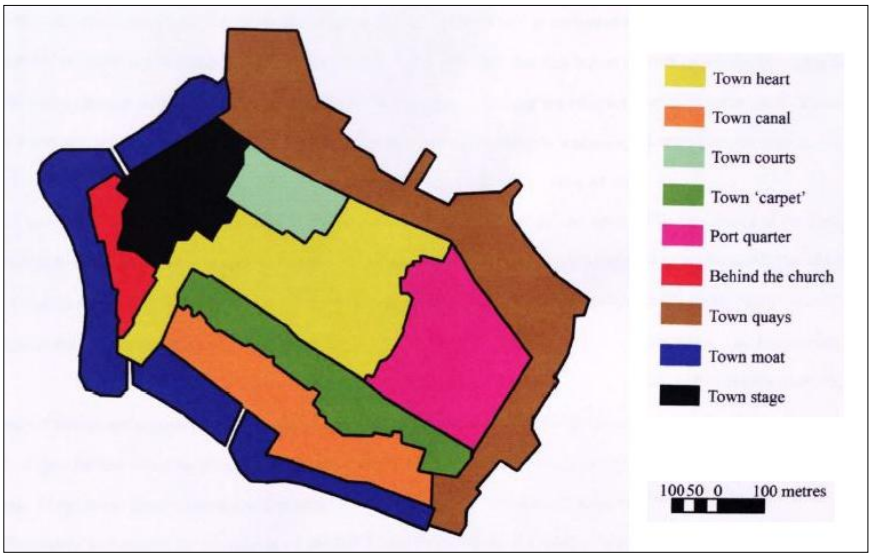


Figure 2.13 : Character areas of central Alkmaar, The Netherlands prepared by Kuiper Compagnons, illustrated by Bienstman (Bienstman, 2007).

Morphological Morphological regions can be useful for understanding character areas of historical towns and following conservation plans, as can be seen from the exemplary studies. Also, as Conzen indicates, beyond the historical towns, these regions can be used to identify “the historical character and value of the townscape in a spatially coherent way” (Conzen, 2004, p. 76).

Conzenian tradition of urban morphology especially focuses on units of town plans such as plots, streets and buildings. The conceptions which might be used in urban design and planning approaches, as well as geographical and morphological researches in order to analyze each of the units of the cities within their historical

development, and for sustainable solutions for planning and urban design problems as focused on this study.

2.3 Morphological Foundations Determining Urban Form

2.3.1 Urban block as the basis of urban form

Block is the area bounded by streets and contains parcels and built units in it (Cowan, 2005). The blocks might be in different forms referring to the streets limited them, the plot subdivisions, the building forms constructed on them, topography and other natural conditions (Llewelyn-Davies, 2000). Baş (2010) asserts that, urban block is not a unit only comprised of the relationship between the plots and buildings within the block itself. Furthermore, the effects of streets to the plots, buildings and the whole block are also crucial for defining what urban block is. Therefore, urban blocks refer to public and private patterns through these relationships of street, plot and buildings as the components of an urban block. Urban block is an element of urban form as can be seen from morphological approaches. Physical characteristics of blocks, like size, volume, layout or density, make urban blocks the basic tool of urban design as well as urban morphology (Baş, 2010). “The dialectical relationship between street and built plots creates the tissue and it is in the continuation of this relationship – capable of modification, extension and the substitution of building – where reside the capacity of the city to adapt the demographic, economic and cultural changes that mark its evolution. The street layout determines the relationship with site, centre and capacity for extension. The width of plots (their opening on the street) and their depth condition (and are conditioned by) the type of buildings used” (Panerai, 2004, p.166).

Hence, we might examine urban blocks within two scopes. By recognizing signification of urban block as a physical entity and territorial phenomenon, its evaluation is observed in both objective morphology and subjective morphology.

Urban block is a basic tool for urban design. Each element of urban fabric also defines the others such as streets aligned by the formation of blocks and also they delimit and shape the blocks, as Baş (2010) states.

2.3.2 Parts of urban blocks

2.3.2.1 Street

One of the main components of urban blocks is street and street pattern which create continuous networks among building blocks. Marshall states that “The urban

street had traditionally united three physical roles: that of circulation route, that of public space, and that of built frontage" (Marshall, 2006, p.6).

Kropf defines the street as routes delimited by buildings on both sides. Street patterns which constitute by organization of streets provide the boundaries which define plots (Kropf, 2011).

According to Marshall (2006), technically, street is dealt with by engineers and transportation planners, as only a sort of road system. On the other hand, approaches of urban designers are creating favorable spaces with streets referring to the movement of the city. Streets are in relation to buildings and one of the main tools of space organization. Streets are functionalized within the space organizations. Thereby, it is possible to examine them in hierarchy in terms of functions, as well as transportation. From this point, types of streets become significant. Existing street types lead designers and planners to design both new implementations and historical patterns effectively. Therefore, the critical point is to figure out the connection between the hierarchies of streets and pattern types (Marshall, 2006).

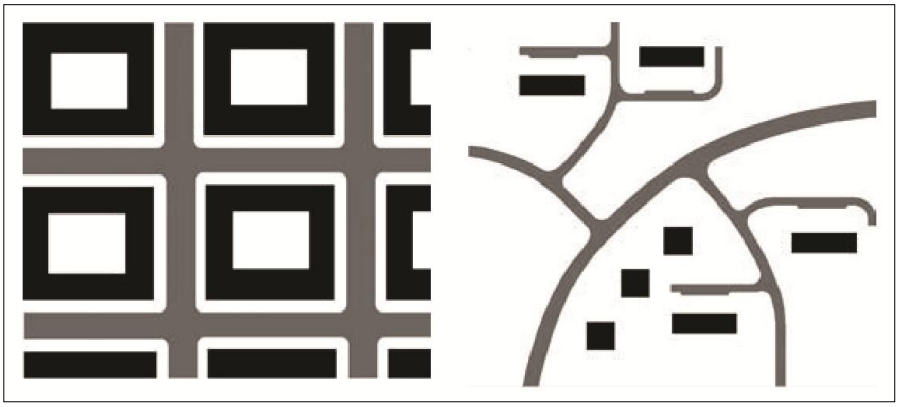


Figure 2.14 : Modern layouts: "fit of roads and buildings", traditional layouts: "roads and buildings follow their own dedicated forms" (Marshall, 2006, p.6).

Street pattern is also identified as cadastral pattern by Carmona. He (2003) explains it as channels of movement within the layout of building patterns. As urban design approaches, the permeability and accessibility concepts are the basic qualifications that a street pattern should have. He emphasizes the public space network between the blocks. Therefore, it might be stated that street pattern refers to the public space of private property from his perspective. Changes or transformations of cadastral / street patterns are observed in process and historical patterns, especially existing in the core of the towns remain longer. The transformation process of landscape occurs without destroying the main types. Through examining the traces of old

patterns, the process develops as depicted and it is defined as “palimpsest” (Carmona et al., 2003). Moreover, as Krier (1984) claims streets represent social and economical relations as well as being physical distributions.

2.3.2.2 Plot

Plots assist to define both the streets and building nests. Conzen gives a description of plot through the components of street-blocks. The parcels which constitute the blocks (or street-blocks) as groups or in one piece are called as plots within the physical identification (Conzen, 1960).

In Urban Design Compendium, the description for plots is that they “are usually much smaller increasements or land holdings that form the basis for much of our built heritage- giving established centres their variety and fine urban grain” (Llewelyn-Davies, 2000, p.67).

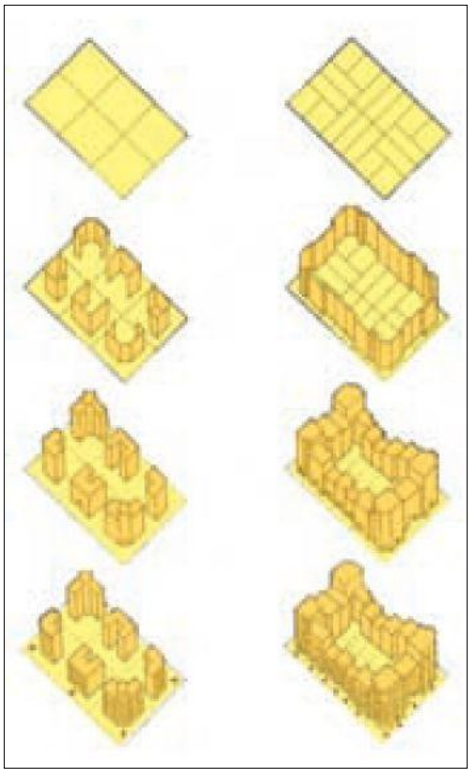


Figure 2.15 : Plot sub-divisions and building block formations on parcel supported for ‘a greater diversity of forms and uses and a more active street frontage’ (Llewelyn-Davies, 2000: 67).

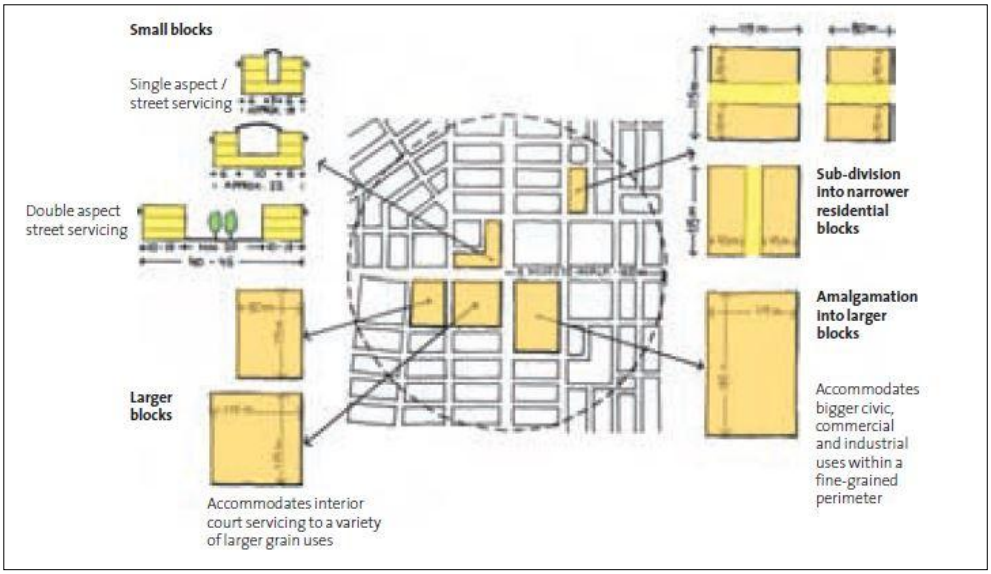


Figure 2.16 : Various plot sizes and sub-divisions in a mixed used (Llewelyn-Davies, 2000, p.65).

Carmona (2003) states that they are cadastral units that are subdivided into plots (or lots). Streets surround them and they might be organized as back to back as well as larger units which are only delimited by street lines. Plots primarily refer to parcels which are territorial subdivisions of land. The boundaries of these properties are changed through purchases and sales. For instance, within time periods, larger parcels might be subdivided, some part of them might be sold by owners, public institutes might occupy some parcels or part of them for public interest or smaller parcels might be clustered and create larger plots (Carmona et al., 2003).

2.3.2.3 Building

As Kropf (2011) states, the building could basically be defined as something built with rooms surrounded by walls and a roof. Conzen (1960) defined the buildings within the conception of block-plans explaining them as the main component of the town plans. They are open to change with respect to their plots more than other units of the urban blocks. Buildings as three-dimensional physical solids, are structured on “land ownership parcel” (Kostof, 1999).

Krier (1984) states that big scale building blocks in their plots are surrounded by planned or unplanned streets and they are mostly found in peripheral areas of cities. On the other hand, in central parts of urban spaces, smaller building blocks in various sizes are observed and this is the result of increment of density in the core areas.

Small or narrow plots generally inclines smaller, attached residential buildings; while in larger plots, detached houses with gardens or courtyards, villas, large sized apartment buildings, or institutional buildings are built. New building types integrate to the previous types, if there is any subdivision or unification in the plots. Otherwise, blocks are transformed completely and they are organized with different buildings and densities as Panerai explains (2004). For instance, after neo-liberal policies became the main implementer of land use planning, the transformations of blocks could be observed through mega structures or huge shopping centres, which are constituted by unification of divided plots whether they belonged to different land owners or not.

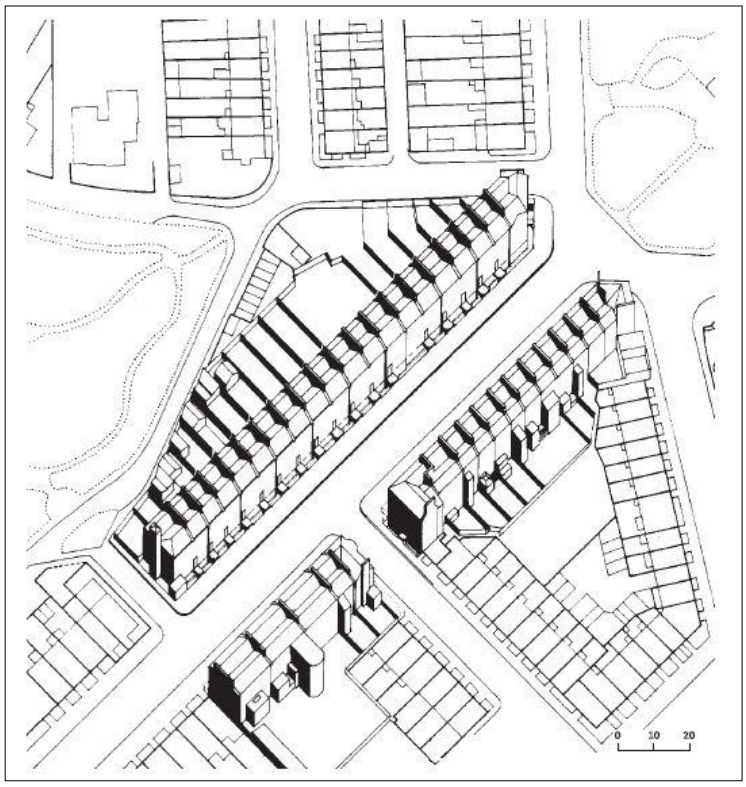


Figure 2.17 : Building blocks: 19th century's "row housing as an element producing tissues" (Panerai, 2004, p.161).

2.3.3 Objective and Subjective Approaches to Urban Block

As can be seen from previous parts, urban block is taken as the main unit of urban form. Morphological approaches within different philosophies and backgrounds are categorized in two, as mentioned before, from the view of Baş (2010). Baş analyzes these two scopes under normative approaches to urban morphology, in which the characteristics of the urban form are recognized. According to the intention of studying on urban form criteria, urban block as the module of urban patterns is analyzed in objective and subjective morphological practices.

Without recognizing urban environment and human behavior, only the physical structure of urban form is considered in objective morphology. Urban form is analyzed geometrically, therefore architects/urban designers focused on type formations. Trancik (1986) emphasizes on solids and voids in the built landscape. Naming it as 'figure-ground relationship', he indicates analysis and design tools in reference to urban block elements. Organization of solids might present a centre or a neighbourhood pattern, whereas voids refer to the active public (or semi public) spaces like streets and squares. Therefore, solids and voids constitute the basic units of urban pattern. Trancik defines these typological patterns within six categories as can be seen from the Figure 2.18 (Trancik, 1986).

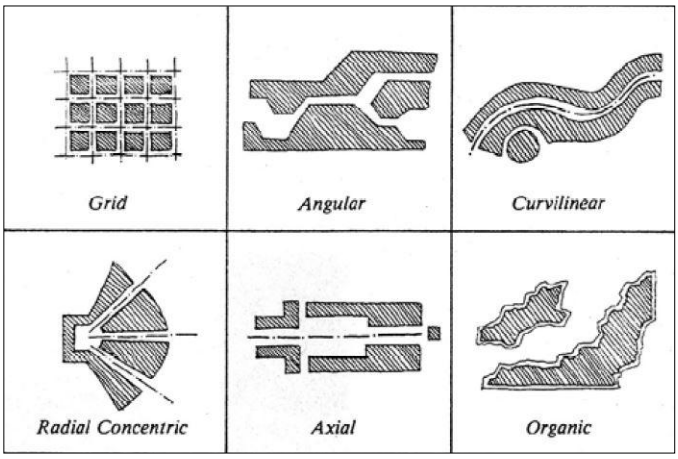


Figure 2.18 : Six typological patterns of solids and voids (Trancik, 1986, p.101).

As a tool of urban design, urban block is analyzed in relation to the streets and other open spaces. Krier states acceptations in order to discuss urban form. It is that streets and squares determine the form of buildings or they get in shape in accordance with building forms. He makes suggestions about urban blocks in terms of the qualities like size, volume, typology etc. (Krier, 1984).

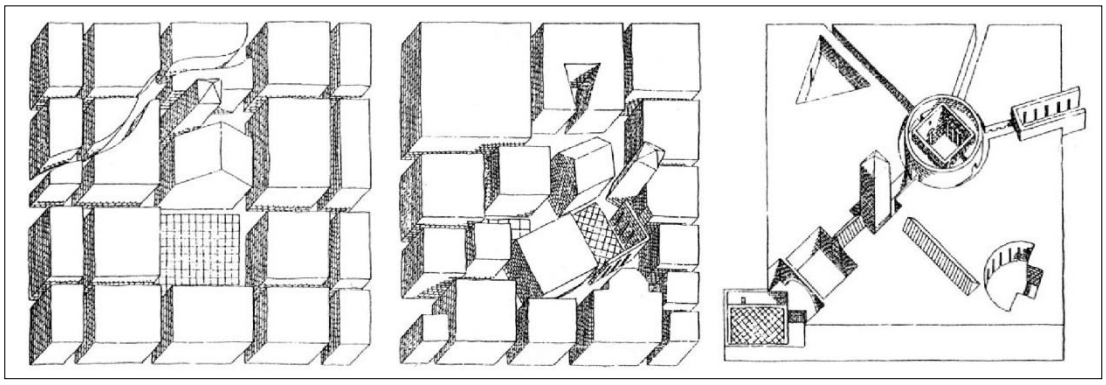


Figure 2.19 : The three diagrams showing the connection between building blocks and public places in European cities (Krier, 1984, p.244).

Perception of different users, such as individual or groups, and their relation with urban space is considered in *subjective morphology*. Effects of environment and human behavior in urban space become significant. Hence, environmental design approaches are propounded by urban designers and architects like Lynch, Alexander and Newman (Baş, 2010).

The urban planner Lynch observes urban space and life by exploring five elements of city. He also points out the significance of urban blocks in one of these five elements; districts. Physical patterns, forms, typologies are the determinants of the districts as well as usages, functions or other factors. Farther, Lynch explains the characteristics of an identified urban form in terms of design process (Lynch, 1960). As he states that the city forms change depending on economical, cultural and political background of city and as well as its functions, it is reflected in the visual experience of each user.

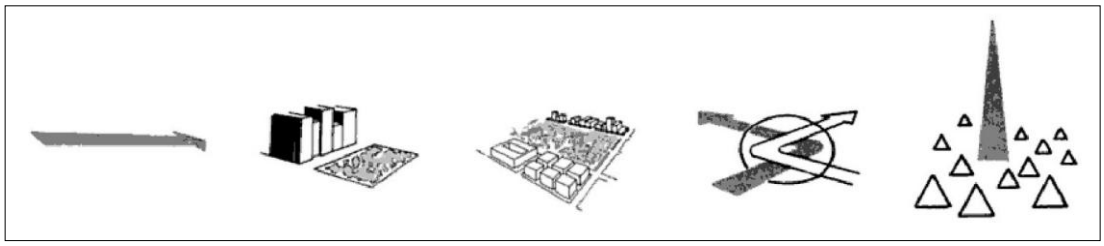


Figure 2.20 : Five elements of city (Lynch, 1960, p.47, 48).

Baş Baş (2010) asserts that the relation between block and street correlated to the relationship between private and public spaces. Territorial acceptation of urban block introduces the organization of private and public formations. Each unit has a boundary in terms of their form and their territorial being. Therefore, typological characteristics of urban blocks inside their territorial boundaries might become the deal of urban design via legal basis (Baş, 2010).

Panerai explains (2004) that “The block is the space between the streets occupied by the private space of plots, semiprivate space and sometimes public space and buildings” (p.168). Panerai points out that whereas streets represent the public spaces, the interior of blocks transforms to individual spaces isolated from streets through the evolution of blocks in history. Therefore, organization of blocks and following space segregations as public or private should be morphologically analyzed and new design approaches should be applied referring to territorial reorganization. Based upon these explanations of Panerai and Castex, urban blocks in Siedlung, Frankfurt which were the public and private projects designed by

architect in May 1920's are discussed by them. The connection between street and building façades created a sharp distinction between public and private territories, while the back of the buildings firstly attached to private gardens, then through modifications, collective gardens and gardens connected to each other with collective lanes (Panerai et al., 2004). As can be seen from Panerai's analyses, identifying elements of urban blocks within their territorial aspects as an issue of subjective morphology inclines a double-sided relation in urban design and architecture practices concerning urban form.

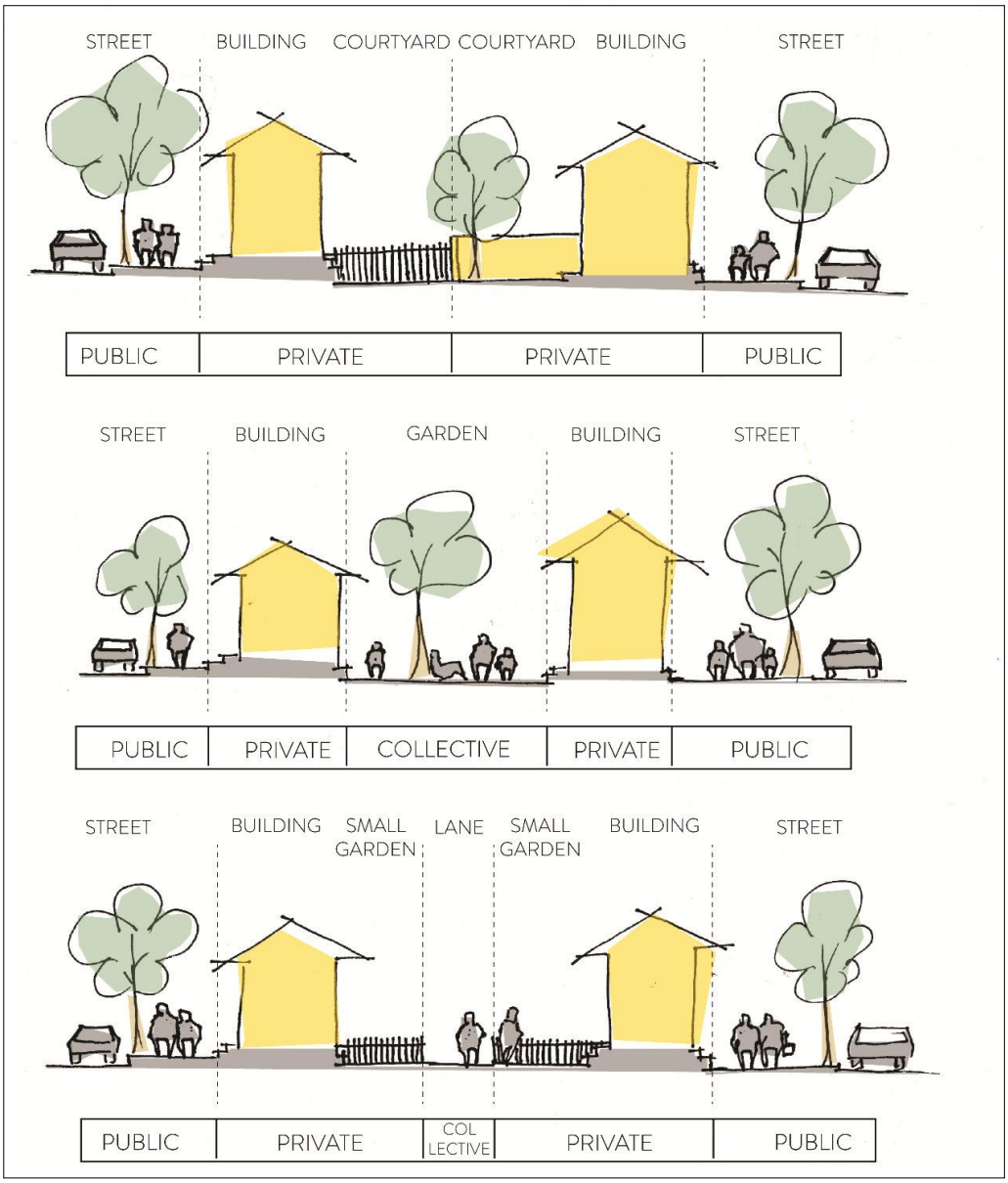


Figure 2.21 : Urban block sections showing public, private and collective spaces in the design of Ernst May for Praunheim, Frankfurt (based on Panerai, 2004), prepared by author.

Alexander brings design proposals in ‘A Pattern Language’ by explaining that physical properties with reference directly influence the social life. For instance, he claims that, because of the fall in connection to the ground, the lives in high rise buildings give cause for isolation from public spaces. Likewise, he supports common spaces in order to provide places in which people can feel secure out of their private properties (Alexander, 1977).

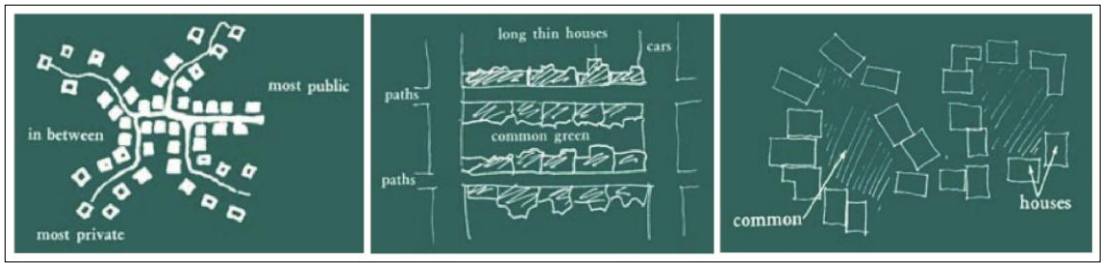


Figure 2.22 : Sketches for illustrating degrees of publicness in urban design (Alexander, 1977, p.102, 104, 108).

In conclusion, objective and subjective morphologies embody the studies containing discussions, according to geometrical or social components in analyses and design of urban form. Apart from physical and technical arguments of objective morphological approaches, in subjective morphology, because of territorial aspects of units of urban blocks, urban block also can be analyzed in terms of property relations.

2.4 Chapter Evaluation

In this chapter, the concept of morphology and different morphological approaches of architects, planners and geographers are explored. As can be seen, morphology schools of British, Italian and French, having researchers with different backgrounds, observe the urban form for particular goals through particular methods. The British School of morphology focused on how urban space should be built and why, while the Italian school looks for the answer of how cities should be built. French school emphasizes the past design theories to find out what should be built and what has actually been built. However, as Moudon points out, they all studied on urban form with consideration to historical processes and analyzing the main elements of the city; buildings, plots and streets. Following this, Conzenian tradition is explored in detail. Although Conzen claims people’s perception from a townscape is subjective due to the variety of their recognition of urban space, he

manages objective methods for identifying character areas in towns. Especially, three partite explanation of town plan by Conzen created a significant relevance. It leads us to urban block conception. These three elements of urban space which have a direct connection to each other constitute urban blocks. Elements of town plans as in Conzen's phrase, street, plot and building concepts are discussed in terms of morphological approaches and urban design theories. Also, as a result of detailed analysis of urban block elements, morphological region concept by Conzen is discussed with several different studies. Each study explored this method of Conzen. Especially, hierarchical order between the regions is accepted as questionable for some researchers. On the other hand, morphological region analyses can be compared with conservation areas in the historical towns.

Urban block formations are explained recognizing street, plot and building connections. As the urban block analysis in subjective morphology practices indicate that urban form is studied by researchers who consider relationship among society, environment and form as well as the researchers working on physical attribution. Thereby, subjective morphology requires a series of analyses considering direct influences (mostly seen as public or private usages of the elements of urban blocks) to activities of people.

3. PROPERTY RELATIONS AND URBAN FORM

Since antiquity when things were first invented, coming today's capitalist world, the desire to possess objects has always existed. The act of owning brings enforcements and influences for the things being owned. Things as possessions within production processes become both material for production and outcome of it including space. As a basis, we can recognize the space representing the people living in it. Lefebvre recognizes space as social with its users, production and reproduction relations (Lefebvre, 2009). These relations take place according to legitimized property patterns. Therefore, right along with sociological, economical, cultural or even psychological reasons, ownership patterns within the context of property concept are the most crucial determinants of urban form.

In order to see the direct connection between built landscape and property relations, concept of property and its place in urban space, in terms of production relations are examined in this chapter. Urban land that takes its form through multiple factors such as geographical conditions, culture, political and socio-economical standing is shared among people as individuals or corporate. Considering all the determinants influencing urban form, but especially property relations as a production relation such as seen in urban space, practice of urban design and planning becomes more analytical.

3.1 Concept of Property

Günay (1999) states that the origin of the concept of property came of Roman Laws that shaped modern law with its concepts and terminological foundations. In Roman Laws, the sharp distinction between private and public stands out (Günay, 1999). According to him (1999), property, 'manicipium' was referred to "holding at hand" since Romans subsisted with agriculture and have lands to do farming. Later, they defined property as all the things they own and possess; 'dominium' and then reached to 'proprietas' as individual dominated belongings (as cited in Umur, 1990). Therefore, property conception draws limitations of other people over the objects owned as well as defining the abilities of owners with the property (Davies, 2007). In the middle ages of England, the Common Law which constituted against the Roman

Law raised a limited ownership of land. The concept of 'estate' recognized through the English law system in which the land was respected as the property of the king and was held by tenants (Günay, 1999). Another example of property conception could be examined in Ottoman landownership regime. The land was assumed to belong to, thereby the possession of the sultan, according to the Islamic regime in Ottoman Empire. Property in that sense, recognized as demesne (miri arazi) with no individual rights, but the dominance of the state (Cem, 2007).

Property concept gets in shape according to legal processes as can be seen above. The evolutions of the concept and its enforcements have been changed according to the societies. Even so, understanding the core of the property has produced many other discussions from theorists. Property is defined as "a thing or things belonging to someone; possessions collectively" in Oxford Dictionaries (2013), whereas it is explained as "buildings, land and infrastructure" in the Dictionary of Urbanism (Cowan, 2005, p.309). The reason to quote these two definitions is emphasizing the hierarchy that indicates the general concept at the one and the perception within urban process at the other. However, it can be seen that the meaning of property refers to particular objects from the definitions. Günay (1999) states that claiming the property only as some objects to own separates it from the main concept substantially. Many theorists construed the concept according to the basis of being private, common or public and a bundle of natural rights or legal enforcements of societies. Macpherson evaluated property concept within the discussion of taking it as a right or a thing. He states that: "What distinguishes property form mere momentary possession is that property is a claim that will be enforced by society or the state, by custom or convention or law" (p.3). Whether it serves to common interest or individual enforcements, property is a right to own, according to Macpherson. Observing property as a right, but claiming it as an object makes the conceptualizations meaningless. Thus, the studies indicate that property as a social right generally discussed by theorist in respect of the practice of that right (Macpherson, 1978).

3.1.1 Property philosophy and property rights

Günay (1999) states that, the ownerless objects or the objects that are occupied through wars constituted the right of property by means of appropriation in early periods of history. Therefore, the first occupants obtain the right of property. Primarily this is how, in 1754, Rousseau explains the first land possessions as "The first person who, having fenced off a plot of ground, took it into his head to say this

is mine and found people simple enough to believe him, was the true founder of civil society". Rousseau states on an outcome of progress through civil society foundation with private property and recognizes property as a right as well Locke discusses it already (Macpherson, 1978; Davies, 2007).

Locke states property as a natural right of men. He asserts the right of private property and those thoughts influences liberal thinkers of 19th century especially. Theories of Locke on property can be respected as the basis of capitalist property. He explains the labour theory in order to justify right of private property which is criticized as an obstacle in front of individual freedom by Marx later. Thus, Lock's theories about property can be examined within these two points; private property as a natural right and labour theory. He indicates that like living and liberty rights, property is also the right of each individual being in a society. Though, equality of those rights causes inequality of wealth. People without any property begin to be tied to the ruling of property owners. Locke tries to acknowledge the necessity of private property through individual labour conception; however, Marxists use it in order to abolish the private property.

The right of first occupation theories is criticized by Proudhon. He claimed that the right of first occupations had begun by possessing the objects physically, unless otherwise specified (Proudhon, 1993). Proudhon asserts that property is theft. He criticizes the views concerning property as a natural right as well as liberty, equality and security. Property is not a natural right according to him. It is formed through conditions and legal enforcement. He argues that in the case of acknowledging the property as a natural right, it indicated antisocial outcomes. Society and property are opposite to each other; thereby property has to be eliminated. He claims that if there is a common use for everything, the concept of liberty can be processed. The existence of the other rights depends on the lack of property right. Besides, there is no concept of property if there is no legal proprietor according to Proudhon. He maintains his idea intensely that property concept only brought inequality. Accepting the property as a natural right also indicates that the unequal outcomes of property rights are also natural rights. Proudhon explains property as a power of exclusion. He asserts that property is impossible since in the capital production, the labourers are priced according to labour, not the property itself. He believes that property caused to end of the society by unequal establishments over labour and property (Proudhon, 1993).

Marx argues that the theory of labour value legitimized the capitalist private property in which dominance of particular classes of society exploited labour. Components of

commodity production; labour, capital and land bring domination of private property in his theories. He states “The capitalist mode of appropriation, the result of the capitalist mode of production, produces capitalist private property” (Macpherson, 1978). Marx claims that right of private property made each individual of the society alienated and a meta. The power collected by the groups of people who have private properties in the society. The labourer, on the other hand, constitutes the class of proletarian. As a direct outcome of property rights, which arises from production mode, the natural rights which Locke supported before, becomes meaningless. Equality turns to inequality, while liberty becomes a benefit of specific groups and security gets the meaning of protection of property, whereas it should belong to all people. Private property of bourgeoisie is predicated on exploitation of labour, contrary to property of independent producer. Therefore, in theories of Marx and Engels, it is believed that societies should avoid private property and proletarian class of society should administer society for a socialist society (Macpherson, 1978; Günay, 1999; Baş, 2010). From this point, as we can see, public and common property domination over space is based on production modes within its own economical and political system.

3.1.1.1 Subjects and objects of property

Property rights are highly associated with the laws, the state, economy and culture. Basically, these rights amount to economic rights. Usufruct, exclusivity and alienability which can be owned by solely one person or can be shared by counterparties are also the rights implicated in property. The differences among the practice of property right in different societies depend on scopes of the dimensions of property (Carruthers and Ariovich, 2004). Subjects and objects of property are the key aspects of them. Davies claims that “the person is both subject and object of her own property, existing as a self-relation which is divided and yet a whole, for instance as (owning) mind and (owned) body” (Davies, 2007, p.14).

Property subjects

As Davies (2007) states, people can have property and they are not property. The matter of who may own is differentiated in regard to societies on the basis of individuals or corporations. An individual may have own multiple properties as well the corporations or many individuals have the right of ownership shared for a single property. Carruthers claims that right of property varies according to gender through laws in societies, too (Carruthers and Ariovich, 2004). Günay emphasize the absolute state ownership aroused by consolidation of common or public properties

in socialist societies. Therefore, the position of state in expanding ownership leads people to be the man of property only through partnerships and collective corporate property (Günay, 1999).

Property objects

Davies (2007) states: “Property is only an effect, a construction of relationship between people, meaning that its objective character is contestable” (p.13). Therefore, the things or goods owned by individuals or corporations refer to the object of property. Political, cultural, technological or economical factors affect purchase and selling new objects. Additionally, owning objects depends on culture and law. Legal and illegal markets directly influence the alteration of property objects. The first phenomenon of property centralized lands or other physical entities representing a place. Through time, intangible things have also been included in the scope of property rights as well as tangibles (Carruthers and Ariovich, 2004). As urban areas developed, property concept becomes socialized. Because of “property in consumption goods” as Günay (1999) states get ahead of individual properties.

3.2 Property Relations

Macpherson explains property relations in the context of Marxian thought, as outcomes of significant crisis in history beforehand, such as transformations in the regimes of countries, and following relationships between land ownership systems. Günay (1999) explains property relations as “outcomes of abstract relations among the property subjects and property objects, and the political regulative mechanisms” (p.110).

Primarily, production relations within economical basis bring property relations. Property relations, in which production and consumption activities maintain, generally influence the space. As well as being the main subjects of property, structures and lands constitute physical expression of urban space. Subjects of property that vary in private, public or common usages, occupy capital, labour and land. Real properties can be expressed as both objects of urban space and patterns of ownerships. Within its representation in urban space, real properties bring reproduction and in this process, urban design and planning practices are also determined (Günay, 1999).

Property relations contain usus fructus or abusus of space, occupations, possessions, dominations. They also explain the dualities like right or thing, absolute

or relative, ownership and possession, private and public, corporeal or incorporeal, movable or immovable (Günay, 1999).

3.2.1 Property and urban space

Evolution of urban space as a product is determined through property relations. According to Lefebvre, if historical processes are in question, societies, modes and production relations become the main subject for space (Lefebvre, 2009). As Lefebvre states that space is a social product and property relations relating to the production, space can be taken as the product of property relations (Baş, 2010).

Space and property show similarities in some cases, such as production relations, power and influence of state and social division of labour. The dualities of property relations are also found in space relations. Relations between subject and object are the case of space as in property. Property is called absolute when the individuals possess an object completely. Space is also called absolute as long as the main concern of space is taken as objects and events. In the event of both property and space which are relative, relationship between objects and subjects are concerned. Within these dualisms, the most considered dualisms are private and public concepts. These conceptions are the subject of both property and space (Günay, 1999).

In Marxian theory, urban space is construed as both means and product of capital accumulation. Commodity production brings along a significant power of private ownership. Capital dominates labour as well as interests of capital accumulation dominate urban space (Baş, 2010).

3.2.2 Property and state and law

The political power or the state recognizes the property ownerships, therefore legal relations become determinant for organization of urban spaces. Although the technical role of the state, such as providing infrastructure, control of land uses, production of housing, are can be seen in each societies; the main role of the state is the capacity of dominating space. The control of state and regulations on property relations mainly describes the power of state (Günay, 1999).

Within history, in middle ages, where protection of societies was the prominent, land was seen as the inheritance of god to the king. In the Enlightenment Period, it is claimed that man had rights to the land which requires legal contracts. So, state gained another role as providing security of property and solving the problems about property relations. Capitalist liberal states used the property rights for the sake of

capital accumulation. In terms of Marxist analysis; the socialist state had the tools of production, eliminating private property (Günay, 1999).

Modernist space production is provided by the state in both socialist and capitalist systems; however reproduction of space could not be practiced by the state, and instead private property ownership patterns are used for it (Günay, 1999). Liberal state minimizes its domination over means of production and land through privatizations, while socialist state implements opposite. Property ownership is gathered in the state and private control is precluded in which social classes are not found and exploitation of labour is probated in a socialist state.

On the other hand, Davies states that in liberal societies, private property exists against state and requires political individualism as property owner gains the power legally. He also criticizes the ideas of Bentham, which is explained as property and law are born and die together, by claiming that they cannot be seen as only legal rights, but also natural rights since property and law only symbolically connected to each other (Davies, 2007). However, mostly it is expected from lawyers to find some solutions of subdivision patterns as properties. Private property required codification systems by the public bodies to coordinate the property relations between owners to solve the problems and maintain the private-public bond. So, it is believed that property and law are deeply related to each other, since law is a product of production relations too (Günay, 1999).

3.2.3 Property in relation to planning and urban design practices

Günay (1999) analyzes urban design approaches according to the dominant property relations and space managements through historical periods. It can be summarized from his explanations that in the early periods of civilizations, primitive communal property and its transformation to private property became the matter of space in the Mediterranean and Greco-Roman World where, at the same time, freedom and equality for society exists and citizens were property owner. Therefore, in ancient times, cities are controlled by a central power which dominates the towns. Private and public property division is distinguished by urban design models of towns for instance in antiquity through geometric patterns while in medieval times it represented organic patterns.

When it came to medieval periods, communal architectural approaches rose by referring to medieval communal property. As burgher population increased and Renaissance architecture and design approaches were practiced, private property in the urban space revived. Renaissance brought process of urban space productions

in which outcomes are represented by “one point perspective” environmentally disintegrated structures. When the Middle Age societies entered the period of mercantilism and feudal system gave its place to national state, both Renaissance and Baroque towns indicated not only the architectural approaches, but also new property relations. Architectures and artists became the important figures of that period since land subdivisions of urban space required approaches to represent some urban groups. Property right indicated a thing and gained a meaning except for its revenues. As 16th and 17th centuries brought an opposed approach to common property, it became more absolute. The absolute property of the state and capitalist/investor class created urban design practices resulted in grand architectural structures and avenues the Baroque towns. Beginning from the centre of the towns, the avenues reached to the fringes of the urban areas, providing new property relations and a control facilitator design. Haussmann’s plan of Paris is the most recognized example for this. The land is subdivided as private property areas of middle classes at length (Günay, 1999).

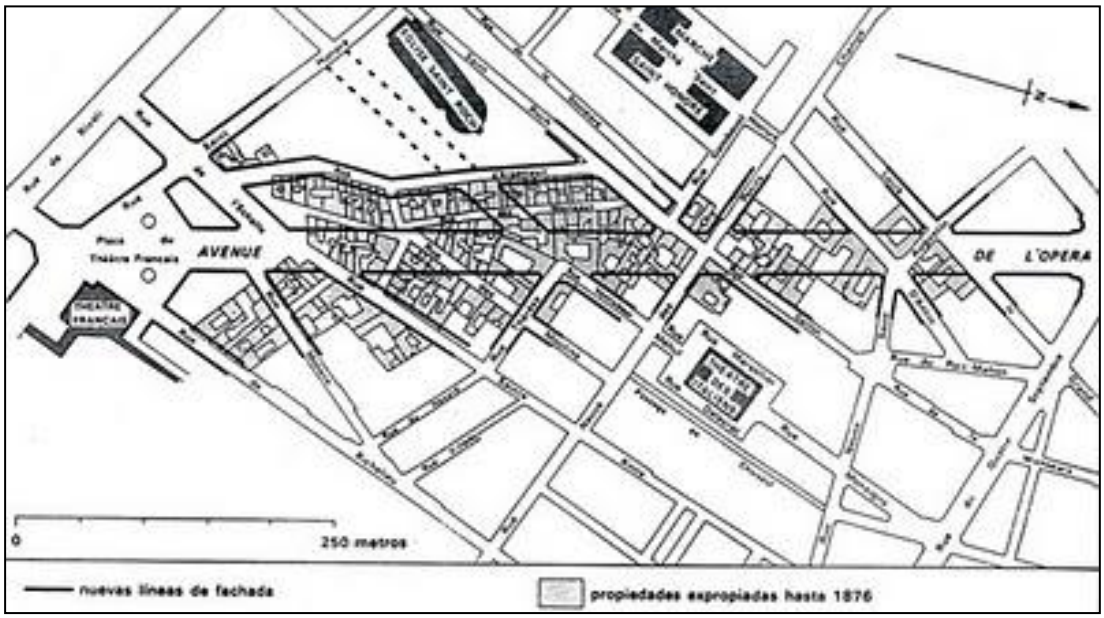


Figure 3.1 : Plan of Paris by Haussmann (Url-1).

Figure 3.2 : Boulevards crossing Arc of Triumph of Haussmann's Paris (Url-2).

Industrial labour turned to a property object and hence urban space was shaped serving industrial forces and housing areas of labour classes. Günay states that "Capital being concentrated in the form of industry, labour searching for subsistence in the form of housing in urban space created new property relations in the urban areas, causing the emergence of new physical formations and urban design approaches beginning with the utopian socialists" (Günay, 1999, p.126). Consequently, in the 19th century, utopian urban design approaches began to develop and collectivisation of property became the main mode of it. Günay explains that Fourier and Owen studied two socialist utopian approaches which are called as "progressist model" against "culturalist model". In progressist model, urban space is separated according to functions and configurations and property is dominated by state or private ownership so that larger areas connected to single ownerships, while in the culturalist model many owners as a community possess urban space and authority was responsible from the regulations. Günay continues his statement as "Whenever there was a utopia, the first tool historically, was communalization of property. In the 19th century, this would take the form of collectivization of property, and in this way industries were beginning to take control of agricultural land in the fringe of urban areas for capitalist development" (Günay, 1999, p.128). Hereby their ideas concluded with reinforcing private property.

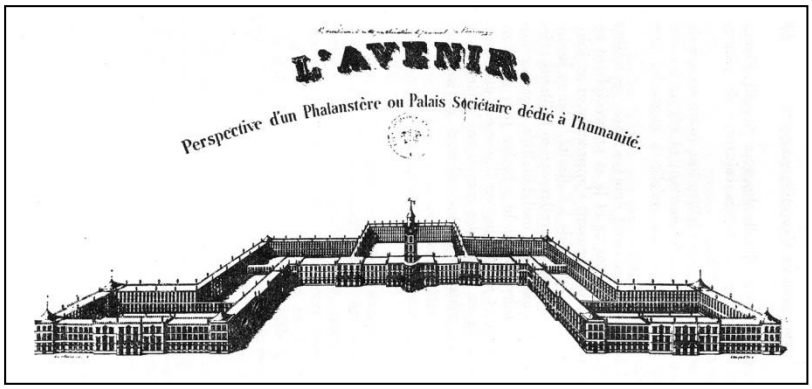


Figure 3.3 : Utopian urban project of Fourier (Url-3).

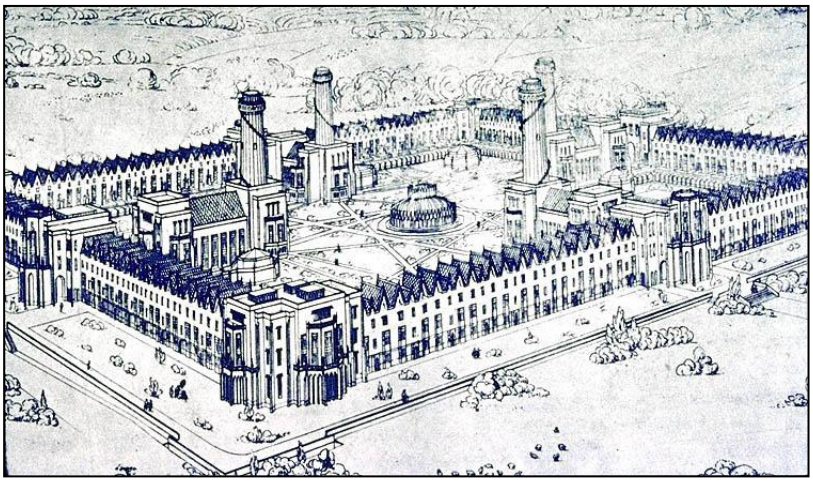


Figure 3.4 : Utopian urban project of Owen (Url-4).

State action in property initiated reproduction of existing city and real property. When property began to be controlled by municipality, public health legislations and collective consumption were applied as urban design practices. Garden city movements and suburbia are found, where middle class property became primitive. Following that, private property utopias got in shape as suburbanization occurred. Models like industrial city, linear city or la citta nouva caused total control over property. Property began to be controlled by public again, as state controlled over property and socialist city model was established. Modernist production of space led to private property practices to abolish. In modern movement of architecture and urban planning structural and infrastructural facilities were provided by public bodies, therefore intervention of state and mass production dominated the process. In the 20th century, comprehensive planning became a body that found solutions to urban space according to the requirements of land owners. Up until the 1950s, modernist architecture and comprehensive planning continued and the state controlled the lands. Günay claims that “Property principles pressed for control over land, provision of social facilities, separation of functions, while architecture ran after

functionalism, standardization and rational production of buildings and functionalism" (Günay, 1999, p.162). At that architects and planners wanted to work on larger lands. Within the boundaries of properties of owners, architects and planners dominated urban land with modernist architecture. Structure planning and postmodernist approaches helped restoration of small properties. As corporate planning and postmodernism of reaction began to be seen in urban design practices, corporate property was also restored (Günay, 1999).

After 1970's, revitalization of Marxian scholarship, property became a more important issue. In the last decade, planning began to be taken in the political frameworks. Planning practice is accepted to serve to legitimize the actions of the state on property. So, planning serves to legitimize the actions of capital considering property relations (Günay, 1999).

The process of making a place is the formation of a new subdivision pattern. The theorists, who approach urban design with behavioral sciences, have not considered the importance of urbanization relations too (Günay, 1999).

3.3 Property Relations in Planning Practice of Turkey

Property relations of Turkey's planning practice have a different scope from the West. Private property was forbidden in the centrist governmental structure of Ottoman Empire. Thus, in the modernization process of Turkey, structural and legal transformation of urban land comes into existence through the transfer of governmental property to private property by causing absolute income.

Urbanization process with a modernist approach in Turkey can be seen in the 19th century of Ottoman Empire and in the early years of the Republic. Developments in relation to urban planning and property relations are determined and practiced based on production relations within certain political grounds. In this respect, as the first process, from early years of Turkish Republic to the 1950's, towns were reconstructed with limited means. Since there was a low population in the towns for land speculation; privatization of urban lands became beneficial for only bureaucracy and bourgeoisie classes. In the second period, from the 1950's to the 1980's, as urban problems occurred, governments focused on planned urbanization. Especially, increasing population of cities due to migrations, caused lack of housing. Urban development in big cities proceeded in two ways: build-and-sell system and squatting. According to Yırtıcı (2011), those were the outcomes of unequal distribution of governmental lands without a strong legal ground. After the 1980's,

the mode of production in Turkey was shaped in regard to the movement of global capital. Large scaled property transformations such as mass housing law brought the expansion of urban development out of the cities. Land speculations were seen in the centres of the cities, while suburban lands were under construction with lower costs and causing scattered urban forms. Constitution of business districts, shopping malls and gated communities are seen in this period. . The city of Istanbul in particular has become the major metropolis of the country. It was fragmented into large scale projects which continued in the 2000's by preferred development rights and new financings. Through changes in planning decisions, large lands in the peripherals of the cities are benefited with high incomes. The process of urbanization and property relations are elaborated on with regards to Istanbul cases in the next chapter.

3.3.1 Definitions

Property (Mülkiyet): right of possession on objects with comprehensive permissions. It can represent land or building. Form and boundary of the property depend on owner choices and land use choices. In planning practices, problems originating from property are solved through readjustments in skewed parcels, having smaller parcels as the result of hotchpots etc.

Immovable properties are registered to land offices with secured rights. Moreover, with condominium law (Kat mülkiyeti kanunu), in an incomplete building, separate property rights can be provided on areas like flats, storage spaces or shops.

Cadastre (Kadastro): aims to confirm legal status of boundaries of immovable properties on the maps in regard to cadastral topographical maps.

Cadastral map (Kadastral harita): map of the whole real estate (lands and buildings)

Plot and land (Arsa ve arazi): according to legislations, parceled lands within municipality borders are accepted as plots, however, there is no scientific identification for these concepts. Lands are categorized depending their utilizations by law. Plots, on the other hand, represent the parcels that occur with development plans and adjustments of cadastral parcels.

Basic map (Halihazır harita): basic map shows the current forms of the towns including buildings, number of buildings, streets, pavements, topography lines, trees, electricity pylons, numbers and borders of building blocks and plots. It is used as basis in planning practices.

Development plan (İmar planı): It contains decisions on urban developing areas, land use and transportation as well as showing existing non-residential areas. It consists of master and implementation plans.

Master plan (Nazım imar planı): In conformity with regional or environmental plans, master plan, in 5000 scale, determines general land uses, region types, population projections, urban development expansions and transportation systems with a detailed plan report.

Implantation plan (Uygulama imar planı): It is the plan, which is created depending master plan, demonstrating building blocks and their density, streets and stages of implementation in 1000 scale.

Conservation plan (Koruma amaçlı imar planı): It represents planning decisions, plan notes and reports regarding natural, urban, historical or archaeological sites with a sustainability priority.

3.3.2 Readjustments

Primary changes in the structure of land properties are stated by Türk (2006) as; voluntary measures, land re-allotment and expropriations. Land re-allotment process requires urban land regulations in particular. These regulations are concentrated among land readjustment, in which land exchange and urban land re-plotting policies are founded; joint land development and land pooling (Viitanen, 2000; Türk, 2006). Land readjustment practices are organized through market price, specific values determined by committees, street value or equivalence principles in the world examples (Türk, 2006).

In Turkey, readjustment of urban space is subjected to building plot plan (imar parselasyonu planı). According to building law no.3194 (İmar Kanunu), which has taken effect in 1985; the building plot plan is laid down as a condition for making development plan. Also, any adjustment can be applied to the lands without the building plot plan. As the municipality approves the plan, land register is provided and building permit is given. In this respect, implementation plans at 1/1000 scale are developed, in order to create urban blocks with development conditions from size of the parcels to the building facades, as well as constituting building plots in compliance with the regulations.

Tools of land adjustment can be managed within two contexts, which are optional adjustments and obligatory adjustments. Optional adjustments are defined as follows:

Border improvement (Sınır düzeltme): It must be implemented for public interest. For the purpose of solving problems of property boundaries which rise because of skewed cadastral parcels.

Land amalgamation and allotment (İlfraz ve Tevhid): These readjustments are managed by landowners or municipalities. Amalgamation is operation of merging multiple distinct and bordering properties. Allotment means subdivision of one land property into multiple parts as separated properties. Prescribed by law, these readjustments cannot be implemented in social reinforcement areas (sosyal donatı alanları).

On the other side, obligatory adjustments are:

Expropriation (Kamulaştırma): Taking private property into public possession for public interest. Municipality pays the price for the property based on Expropriation Law (Kamulaştırma Kanunu). This is the most oppressive interference to private property.

Land and estate readjustment: In order to create urban blocks and parcels conformable to development plan, one urban block at most, is taken as a whole and readjusted by leaving 35% of the land to development readjustment share (DOP; Düzenleme Ortaklık Payı).

3.4 Chapter Evaluation

Regarding to all economic, social, and political factors that influence urban space and urban form, the concept of property is examined in this chapter. Property is acknowledged as social rights rather than objects owned. Therefore, legal right relations between objects and subjects of property should be considered in order to understand property. The historical background of property relations, in a legal basis, indicates the political and economic system of societies and the state's enforcements accordingly. Hence, it proves that property rights over land induce segregation on urban space which is explained as ownership patterns. In this point, labour – land – capital connection in terms of production and reproduction relations, as stated in Marxian theory, refers to urban space production. Therefore, by considering property relations associated with production relations, urban space reproduction modes are discussed.

Consequently, Conzen's emphasis on elements of town plan, plot – building block – street relations, and especially burgage cycle analyses represent urban form and functional changes through property relations. Moreover, as M. P. Conzen explains

that town plan is comprised of land ownership patterns which are legally protected (Kostof, 1999). Hence, morphological approaches to urban form were also taken in property relations in order to have better results from urban design and planning practices. The chapter is concluded with the clarification of legal tools and methods in planning practice of Turkey, dealing with property relations and urban development.

4. MORPHOLOGICAL EXPLORATION IN THE HISTORICAL PENINSULA

In the previous chapters, urban morphology theory and property relations are discussed in terms of components of urban block. Pursuant to this theoretical base, the cases from Istanbul Historical Peninsula are examined and discussed in this chapter.

4.1 Case of Istanbul Historical Peninsula

Istanbu has been an important city with regards to social, economical and demographical parameters, which have been affecting the city since Byzantium period. With its long historical background, the changes in the morphological structure of Istanbul can provide us to understand what kind of relations among urban planning and urban design practices, socio-economical activities and politics have influence on urban form.

In this respect, Istanbul Historical Peninsula is taken as the case study area. The Historical Peninsula is surrounded by Bosporus, the Golden Horn and the Sea of Marmara. It is administered by Fatih Municipality. Transportation channels of the peninsula are of first and second degree for the main roads, railway tracks, subway, tramway, ferry ports and rail tunnel (Marmaray).

Figure 4.1 : Historical Peninsula, 2014.

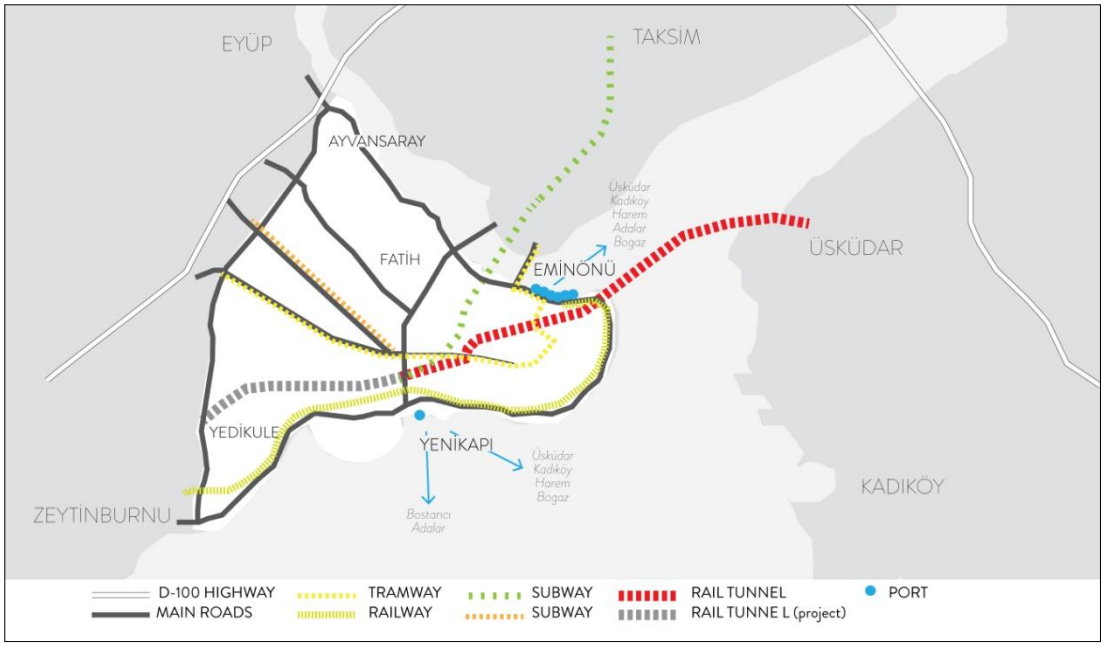


Figure 4.2 : Transportation system of the Historical Peninsula, 2014, illustrated by the author.

The main emphasis of the study is given to Beyazıt, Aksaray and Yenikapı regions. Urban forms of these fabrics are elaborated. Beyazıt and Aksaray regions, connected to Ordu Street which constitutes the spine of the Historical Peninsula ever since Byzantium period. Yenikapı region, having its boundary with the sea, is located next to Aksaray region at the south part of the peninsula.

Each study area is analyzed separately although they all connect to each other. Apart from the region containing Topkapı Palace and other historical buildings, high density residential areas at the west part of the peninsula and old bazaar areas around Eminönü district, Beyazıt Square and its surroundings (Forum of Theodosia in Byzantium), Aksaray region that was regularized several times and Yenikapı (Port of Theodosia in Byzantium) at the coast side of the Historical Peninsula are where major transportation nodes are placed.

Figure 4.3 : The study case areas; Beyazıt, Aksaray, Yenikapı.

Morphologic conceptions and analyses of Conzen constitute the essential methodology of this thesis study. Theory of Conzenian tradition, based on historical development, morphogenetic method, and terminological precision through cartographical representation, was elaborated in Chapter 2.

In order to explain the relationship between urban morphology and property relations, firstly literature review is made. Theory of urban morphology and relations between urban form and property concept is discussed.

Secondly, the case of the Historical Peninsula and the focused study areas of Beyazıt, Aksaray and Yenikapı are elaborated through morphological analyses based on Conzenian tradition. The historical evolution of urban form is examined. Through historical documents urban development is elaborated and morphological periods of the Historical Peninsula are analyzed.

Subsequently, morphological analyzes are applied as explained in Conzenian tradition. Urban blocks are analyzed through its components of street, plot and building relations in Beyazıt, Aksaray and Yenikapı. As the elements of urban blocks, territorial conditions of urban block organizations are analyzed. Transformations of urban fabrics regarding property relations in urban blocks are examined. Ownership patterns are examined and the changes between different periods of urban form are compared. Conzen's burgage cycle studies in old English towns emphasize changes in plot boundaries by taking socio-economical dynamics of the towns as the basis. Regarding this, examination of urban blocks from the

maps within different resolutions and different historical periods, as can be seen in Conzen's studies are recognized, in order to create the connection between morphology and property relations.

The three components of urban landscape in Conzen's morphologic perception are used in the case studies. Town plan, building fabric and land-building utilization are analyzed, in order to examine urban development process of the study areas. Within town plan analyses, streets, plots and buildings are analyzed. In addition, morphological regions are determined according to historical stratification. Based on the concept and the study of Conzen's in regard to 4 hierarchical orders, analyses of the study areas are identified through the regions.

4.2 Historical Development of the Historical Peninsula

4.2.1 First settlements in Istanbul

Archaeological excavations in Istanbul indicate findings from Paleolithic era. Environment of Istanbul had been quite natural and became homeland for many human communities since Paleolithic era (Kuban, 1996). Today's Istanbul is rooted in 7th century B.C (IBB, 2009).

4.2.2 Byzantium period

Around 680 B.C, Megara colony is said to be settled around Chalcedon (today's Kadıköy). Subsequently, another group is known to be settled in Sarayburnu at B.C 695. That second town, which had been named as Byzantium, had been presented a typical Greek town model. Acropolis was at the top of the town, between acropolis and the sea, where a gymnasium, stadium and temples were located. Walls of acropolis of Byzantium were built based on the topography of the town. The town had been in a trade relation with Greek towns which had been managed through two ports of Byzantium. The town had been full of sculptures as seen in other Greek towns. Since there is almost no physical traces of Byzantium, form of the town can only be understood from the topography (Kuban, 1996; IBB, 2009).

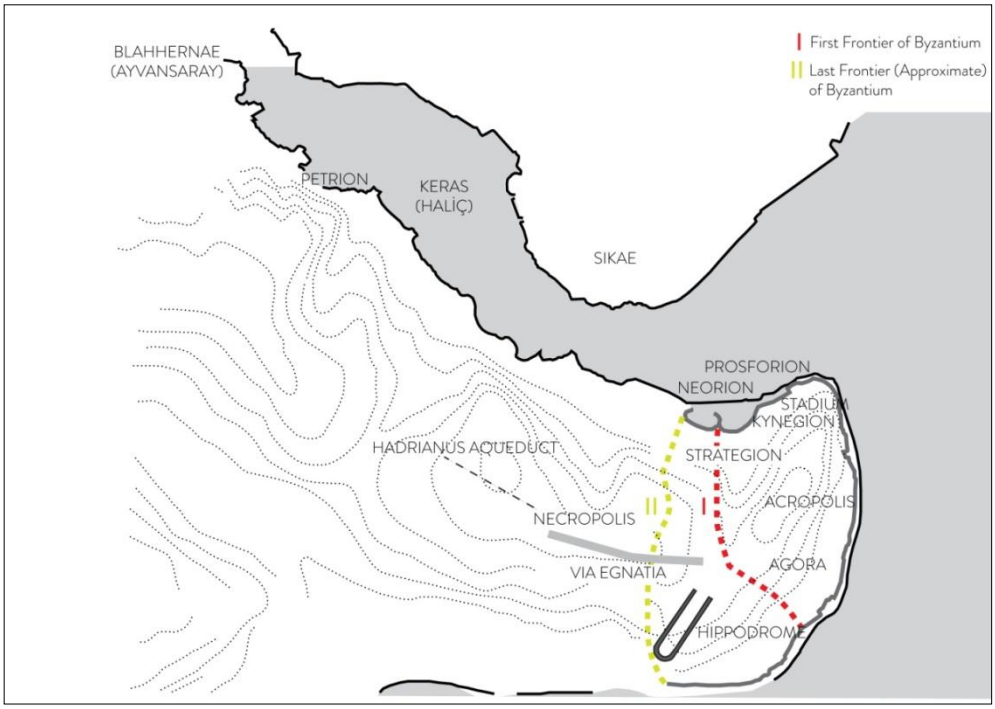


Figure 4.4 : The Historical Peninsula at Byzantium period, redrawn by the author (based on Kuban, 1996, p.20).

4.2.3 Roman Empire period

In the period of Roman Empire, Constantine I succeeded to make Byzantium the centre of East Rome. The town that was built on the Bosporus had been reconstructed and the wall boundaries had expanded. By becoming the centre of East Rome, Constantinople is said to have been competing with the capacity of Rome. Hagia Sophia was built in that period. The urban form of the Byzantium town had been more spacious and it had not been like other Medieval European towns. In the period of Theodosius, the borders of the town had been expanded once more. The town had been developing on two router axes: Via Egnatia, which was named as Mese later, and topography lines which constituted from conjunction of highest points of the plateau. Mese, the spin of the town, had focus points which were the forums of the town such as Constantine's forum and Tauri's forum. Kuban states that Mese was reaching to the river of Lykos (Aksaray) where Bovis forum was said to be founded. Axis of Mese has never been wiped away; rather, it has become the most important axes of the town in all periods of history (Kuban, 1996).

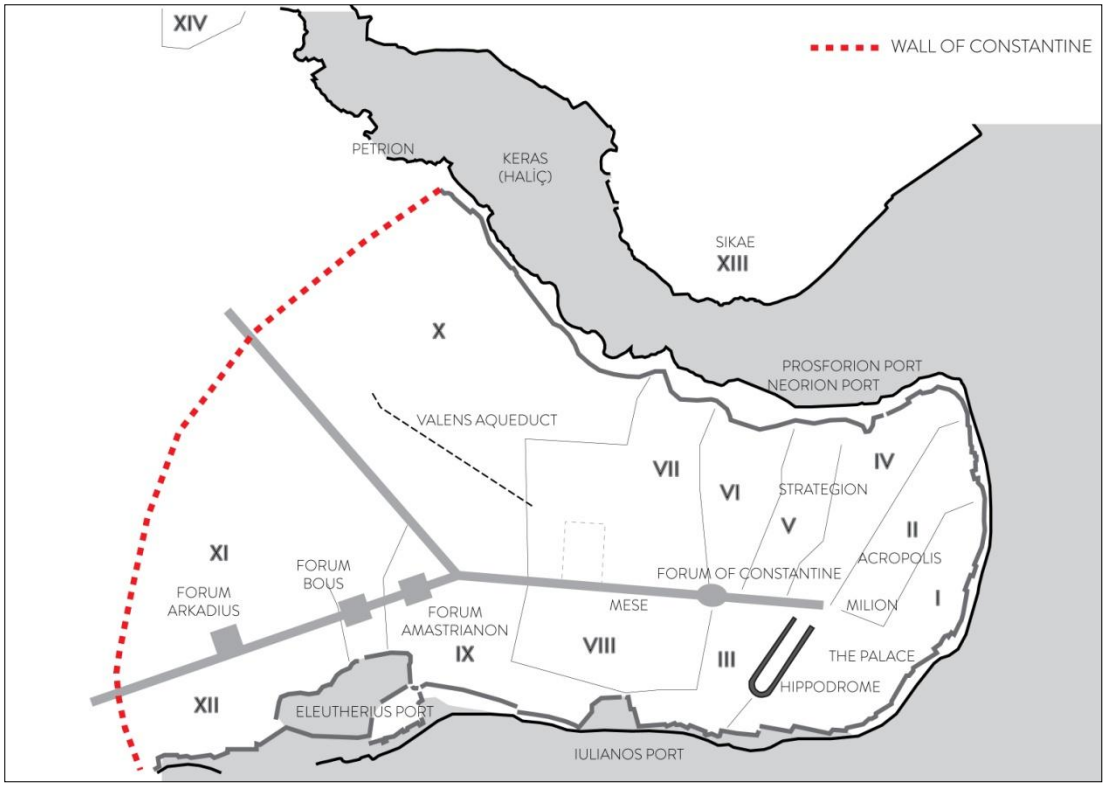


Figure 4.5 : The Historical Peninsula at Roman Empire period, redrawn by the author (based on Kuban, 1996, p.33).

4.2.4 Byzantium Empire period

As the capital of Byzantium Empire, the rising period the town had demonstrated religiosity with a wide range of Christian elements in the structure of the town. Emphasis had been given to the churches. Anatolian and Rumelian fortresses had been settled in that period. The society which had consisted of family of empire and ruling class, trader class and class of workers had reached its highest population in 11th century AD. On the other hand, iconoclasm process of Christianity in the town had prompted revolts. Population of Constantinople had been decreased and the city had begun to decline. Walls of the city and the churches had been preserved only in that period (Kuban, 1996; IBB, 2009).

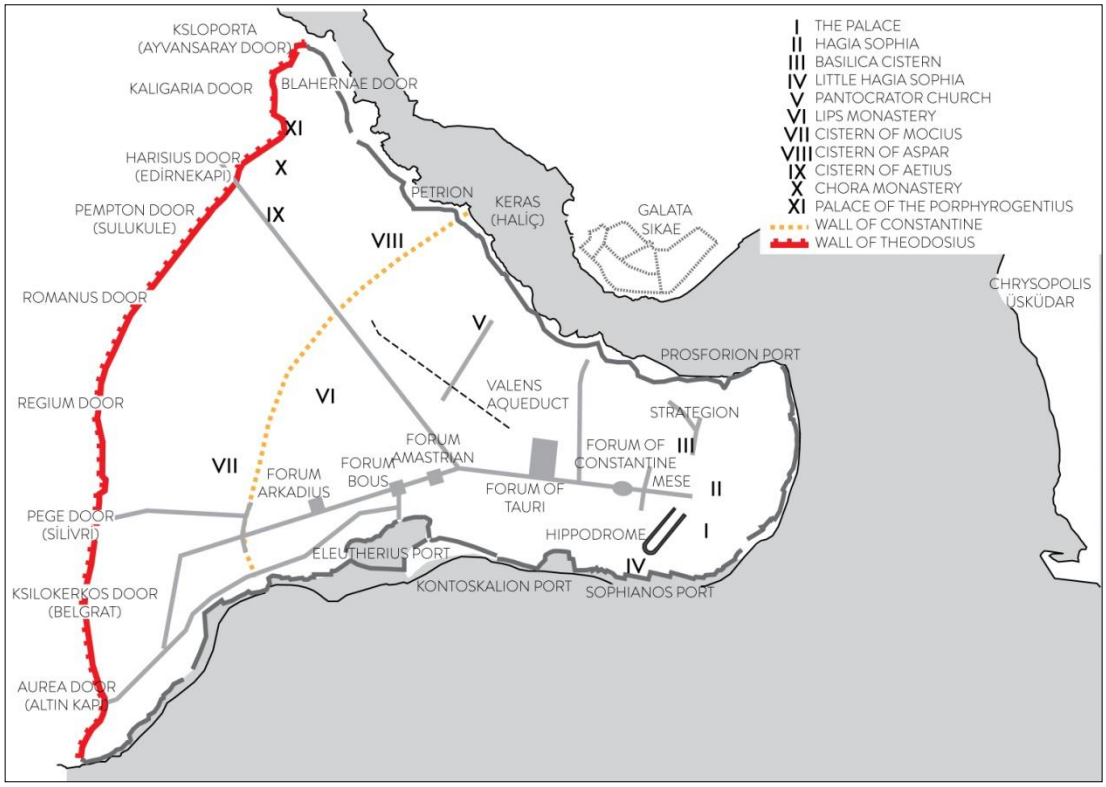


Figure 4.6 : The Historical Peninsula at Byzantium Empire period, redrawn by the author (based on Kuban, 1996, p.97).

4.2.5 Ottoman Empire period

Ottoman's conquest of Istanbul, which has a symbolic meaning for Muslims, had been the most important political goal of the Empire. Regarding that, Hagia Sophia was transformed into a mosque. The town became the capital city again and population began to increase with the migration of Muslim society. Religious rules still shaped the life of the citizens. However, cosmopolite structure of the Empire allowed all religions and ethnical groups to live according to their customs (Kuban, 1996).

The town of Istanbul began to expand beyond the walls and new neighbourhoods were built outside. Çelik (1997) states that Istanbul Historical Peninsula and Galata was centred with the highest population rates of capital of Ottoman Empire based on a map of 1840 by B.R. Davies. West of the peninsula, where Theodosia Walls had existed, had low density and beyond that area, fringe belt of Historical Peninsula in which vegetable areas, gardens and open spaces were found (Çelik, 1997). Çelik (1997) states that; "Foreigners lived on the northern side of the Golden Horn in the old Genoese suburb of Galata and its new extensions, while Muslims were concentrated mostly in Istanbul" (p. 38). The palace, mosques, külliye (Islamic social complexes), bazaars were the focused units of the city. Islamic perception on

privacy of families had a great influence on the form of the city. Kuban (1996) explains the order of the city within two scopes which are privacy and respect to the others such as seen in the avoidance of construction of new buildings which blocks the view or transportation of present owners. Except for the main streets leading to the centre of the town, there were a high number of cul-de-sacs and dead-end streets where the buildings that were formed in regard to the lands. As well as that, there was no geometrical system in the form of the urban quarters; each neighbourhood had integrity in itself. Also, housing units were modest, generally with courtyards and gardens that provided privacy of family life (Kuban, 1996).

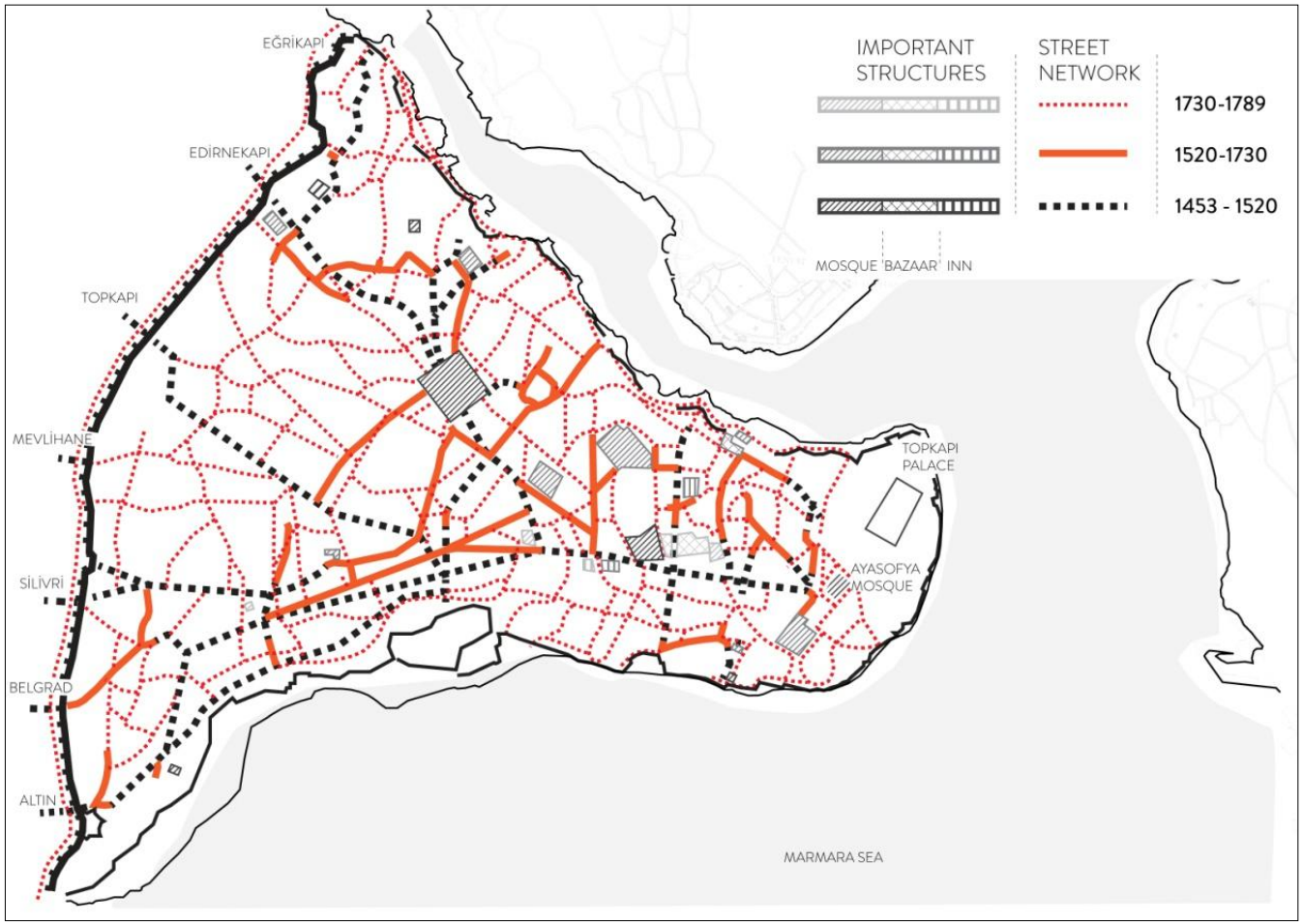


Figure 4.7 : Urban evaluation of the Historical Peninsula between 15th and 18th centuries of Ottoman Empire (based on Kuban, 1996, p. 222, 251, 274, 319), prepared by the author.

4.2.5.1 Urban planning and property relations in Ottoman period

Ottoman Empire before 19th century

In the Ottoman Empire, especially between 14th and 17th centuries, economic order of the Empire was secured through a powerful state control and kept the lands which implied main means of production for property of state as constitutional. Since the land belonged to Sultan due to "Kanun-ı Osmani" (Law of Ottoman Empire), no one from public had the right to benefit from the lands and villagers could not work without the permission of Sultan. Ottoman regime managed the land in three separate ways, which were called as *öşriye*, *haraciye* and *arz-ı miri*. In the lands called as *örşiye*, only Muslims have the right to settle. Those kinds of lands could be sold; divided according to Islamic legacy law or benefiting with land value taxation. *Haraciye* was named for the lands which were given to the non-Muslims with taxation and those lands could be benefited from the ones who cultivate them. Those two land regimes were seen in some spatial regions of ethnical societies. On the other hand, the lands belonged to the state directly were called as *arz-ı miri* which was the most dominant land regime administration of Ottoman Empire. The taxes which villagers paid for the lands as a kind of rental were taken as the price of some chairs' or individuals' (such as soldiers called as tımar) service by the government (Cem, 2007). Also, housings which categorized as *menzil* (attached dwellings with courtyards), *beyt* (regular house with one or two floors) and *hücre* (the room for bachelors) were in the possession of Sultan (Kuban, 1996). This is to say, there was no private property perception and practice in general in the Ottoman Empire. However, the situation continued up until to 1600s when land property regime began to change (Cem, 2007).

In that period, there were neither urban authorities nor any municipal codes for regulating, except for ferman (enactment) of the Sultan in the system of Ottoman Empire. Authority of the towns was held by individuals or small groups within Islamic law and religion. Islamic judges who were called as *Kadı* were responsible for the issues of the towns. Çelik (1997) explains that; "Even though the *kadı*'s primary duty was the settlement of criminal and civil cases, his responsibilities extended to inspect markets, setting prices, regulating the guilds, and maintaining order and cleanliness in the city, as well as controlling building activity" (p. 43). There were four *kadılık* for Istanbul, Üsküdar, Galata and Eyüp in the capital city of Ottoman Empire until *Tanzimat* Charter was declared (Çelik, 1997).

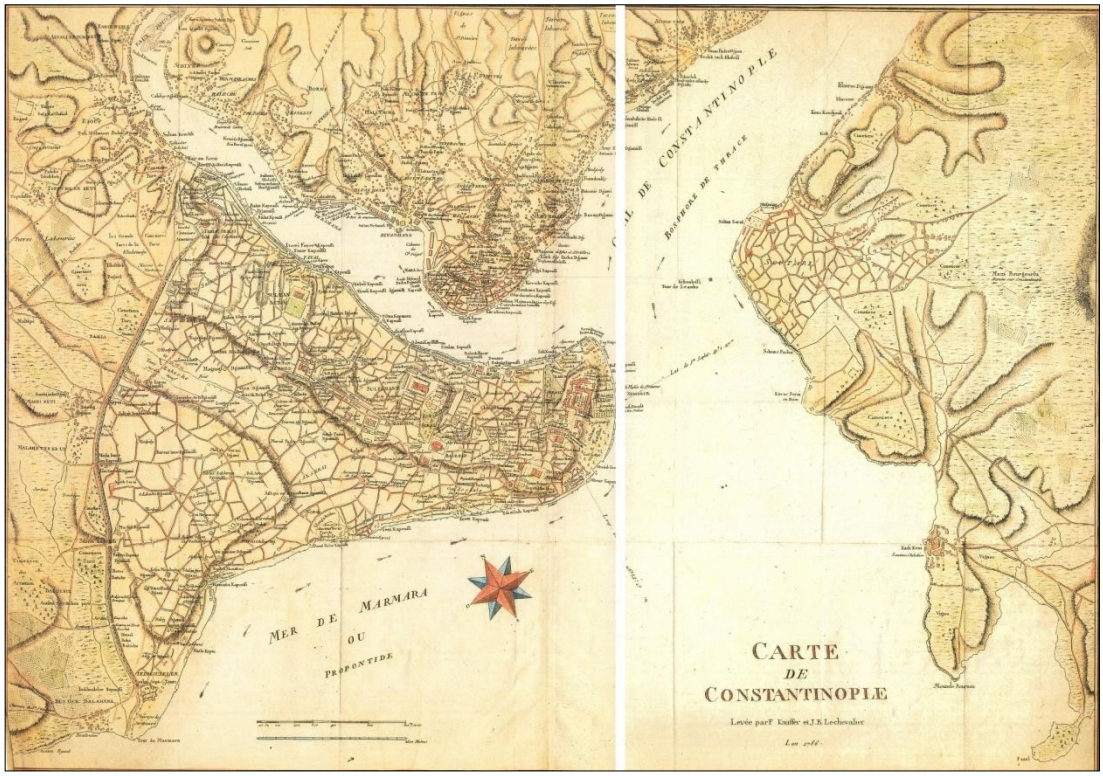


Figure 4.8 : First scientifically measured map of the Historical Peninsula in 1789 by Kauffer (Kubilay, 2010, p.118-119).

Ottoman Empire in the 19th century

Economic changes

In the 19th century, the problems and the solution seeking of industry towns as a result of the developments in industrialization and capitalism, brought today's urban planning practice along. As well as the solution seeking for urban problems, changes in state mechanism and mentality influenced that process. Capitalist system has resulted with an unequal growth in which adaptation of urban planning practice transfer changed from the towns of central countries to the towns of peripheral countries. Reorganization of the towns in 19th century Europe developed in two scopes: utopian approaches and improvements in urban health. In European Revolutions of 1848, this utopian tradition and practice of formation of society was protested. 'Manifesto' which was published by Marx and Engles, required a class struggle and rejection of private property in order to create socialist society. Marx and Engels claim that without the consequences of class struggle in the society, predictions over how the society should have been, could not become scientific, but idealist. Therefore, planning practice was alienated from socialist movement. Subsequently, urban planning practice was handled by rising bourgeoisie in industrialized countries (Tekeli, 2011).

Ottoman Empire, as a peripheral country in this process, integrated to the capitalist system, although it did not industrialize. The land as the main means of production was the keystone of the Ottoman Empire's regime, based on property ownership of the state. When the land property regime changed its scope and mode, all the foundations connected to the regime and the social order came to be declined (Cem, 2007).

The developments in European industrialized countries and following supervisions brought the end of the Ottoman period in terms of economic and political dynamics. In the Empire, there were significant changes, especially in transportation technology. Agricultural production in Ottoman Empire got into marketisation. Industrial goods of Europe competed with the traditional production of the Ottoman Empire and restricted its raw material sources and domestic market area (Tekeli, 2011).

Modernization and private property

Due to the act of Westernization in 1800s, the Ottoman system of land ownership changed in favor of landlords. Private property depended on legacies in order to provide strength of liberal economy (Cem, 2007). Therefore, benefits of community dwellers, in other words property owners, began to be secured.

Westernization process up to *Tanzimat* Charter (reformations) in 1839 involved developments in technologic, scientific, educational and military formations. After 1839, and especially the second half of 19th century, intellectual system of European countries were internalized. Also, the infrastructure investments of European countries in Anatolia induced more power of control over the Empire. The units of education, health and security which were enforced by ethnical or religious groups before *Tanzimat* Charter began to be centralized. Property ownership inclined to be the determiner of social stratification as a result of the Empire integrated to the capitalist system; market mechanism became the control mechanism of surplus production. Social class stratification in traditional Ottoman society underwent change in which bureaucrats, merchants and non-Muslim bourgeoisies constituted upper classes (Çelik, 1997; Tekeli, 2011).

Tekeli (2011) summarizes new social classes in Ottoman period’s 19th century in three sections. Profitable groups from them were Levantines, who represented non-Muslim traders and Muslim traders. Those two groups of the society both were disposed for urban structure of Europe, however, Muslim traders rejected an upcoming development in care of Levantines, instead they desired for a modern

urban life peculiar to Turks. On the other hand, another group of the society, that was composed of the body of mullahs (ilmiye) and craftsman, regarded the urban planning approaches of the West, as a threat to the traditional Ottoman urban life.

Urban transformations

The Ottoman Empire entered in the process of modernization through economic and socio-political reforms between the years 1838 and 1908. As Çelik states that; “These reforms, not well adapted to Ottoman society and not geared toward the heart of the problem, failed to “save” the empire” (Çelik, 1993, p. 37). In that period, planning practices and urban form transformations in Istanbul had an influence on the changes of the Emperor (Çelik, 1993).

Those social and economic developments were reflected to the urban structure with major changes. Since outer connections in commerce were provided through railway and seaway networks, new infrastructure investments like railways, docks and ports were favored by foreign corporations. The change was examined mostly in town centres; as caravan trade was over, the function of inn (han) replaced with hotels, stations and warehouses; new land uses like banks, offices were seen in central business districts of the towns. Since bureaucracy class took the place of military class, state affairs began to manage in government agency built in town centres, instead of mansions of military class. Towns centres also became the centre of new cultural and entertainment activities because of new social classes of bourgeoisie, bureaucracy etc. Not only did town centres begin to change, but also population rates increased and towns begin to grow (Tekeli, 2011). The population of Istanbul with its suburbs doubled in the second half of 19th century (Çelik, 1997). Hence, the transportation of growing cities where business activities centered remained limited and at the end of the century; cars, tramways and other public transports became active. Therefore, in urban form it was observed that the streets constructed before industrialization required regulations and expansion. Furthermore, residential areas, which separated according to the ethnical differentiations before, came to segregation based on economic classes (Tekeli, 2011).

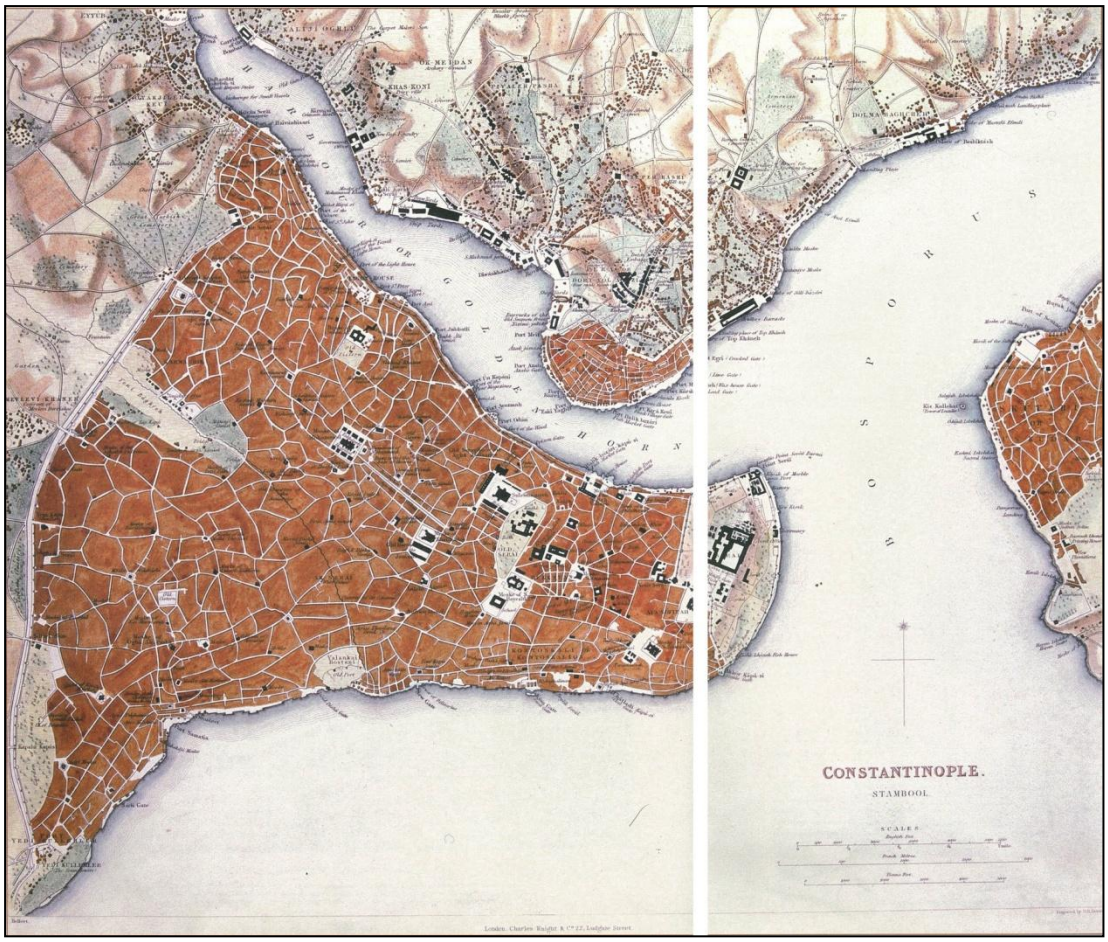


Figure 4.9 : Map of Istanbul in 1840, (Kubilay, 2010, p. 154-155).

Roots of planning practice

It could be seen that there were attempts for planning and mapping in Ottoman period before 19th century. In 1786, French engineer Kauffer's İstanbul map was used as the basis of some planning decisions (Tekeli, 2011). The first development plan of Istanbul, which was completed as a map in 1842, was prepared by Moltke. As Tekeli explains, this map contains not only the existing structure of the town but also a summary of plan decisions. According to the plan; it was proposed that buildings should have built as masonry constructions in new streets which would have been organized according to geometrical rules. It is obvious that those regulations were settled in order to take measures against fires and sanitary problems. Thus, it became forbidden for low incomes to build wooden buildings. Construction of dead-end streets was forbidden; instead four types of streets with the widths of 20, 15, 12 and 10 meters were proposed. Moreover, public squares would have been planned wherever possible. Tekeli indicates that it is not clear if this plan is implemented, however, it guided the first town planning codes of Ottoman's which is dated in 1848 and called *Ebniye Nizamnamesi*. Regulations

about expropriations, building licensing, construction standards, street widths and surrounded buildings' heights were specified with that legislation (Tekeli, 2011).

Another Istanbul town plan was prepared by Bekir Paşa, based upon artistic mosques of Istanbul. That plan is supposed to be emulated from capital cities of Europe in 19th century. He proposed a street network design which would have reached to the mosques and extensive squares surrounding the mosques. Also, European train would have come to Istanbul and the greatest station of the city would have been built in Kazlıçeşme, Yedikule with a monumental door according to that plan (Tekeli, 2011).

After 1848, urban planning approaches mainly began to be considered in Ottoman Empire. In 1854 *Şehremini* (municipality) which was responsible for construction, street widening, urban health and supervision of craftsmanship, was founded. Especially, construction development was undertaken by cosmopolite Ottoman bourgeoisie as a commission. (Tekeli, 2011)

The co-division of the commission of Istanbul was split into fourteen separate municipalities. Firstly *Altıncı Daire-i Belediye* (the 6th Municipal District of Istanbul) responsible for Beyoğlu and Galata districts was established. The cadastral map of that region was drawn and in this way bourgeoisie class defined their property borders. Apart from that, streets were expanded and pavements were covered with paving stones. Large parks were built in Taksim and Tepebaşı, as well as new hospitals and health centres were opened in case of some precautions from the diseases found in other neighbourhoods. Those practices were taken as examples for other municipalities, which were founded primarily in coastal towns and subsequently all over the Ottoman Empire.

On the other hand, due to the great fires occurred in the other parts of the city, partial plans were implemented. In 1854, after the fire in Aksaray which caused the breaking down of 740 buildings, Italian engineer Storari planned that area. Subsequent plans in the other fire zones were completed by the Turkish cartographers. Hocapaşa fire in 1864 became the reason for repealing *Ebniye Nizamnamesi*; a new commission (Islahat-ı Turuk Komisyonu) is established for the reconstruction of the area and *Turuk ve Ebniye Nizamnamesi* in which mapping, expropriations, parceling, street widths and building heights were determined for the whole Emperor, was passed as a result of the pressure of the minority groups in the society (Çelik, 1997).

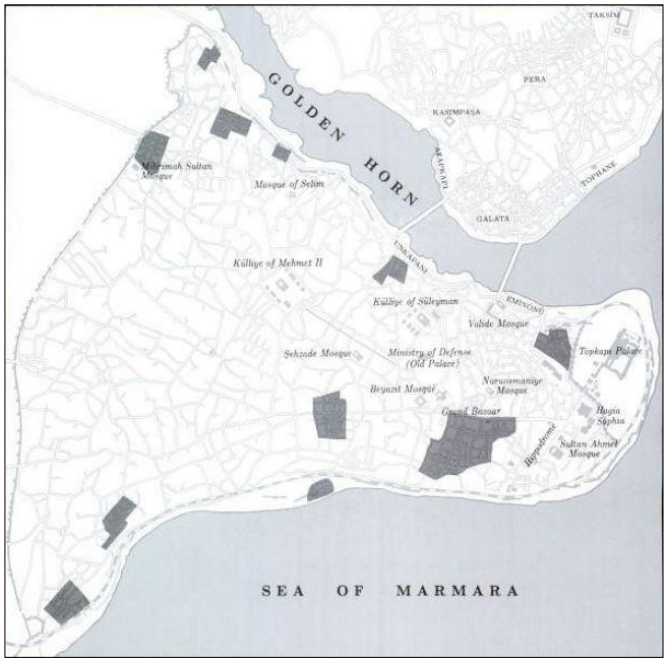


Figure 4.10 : Regularized neighbourhoods in Historical Peninsula (Çelik, 1998).

Although lands of property owners were confirmed in the plan, some streets were expanded. Divanyolu was the most significant one of them. Wooden building construction was forbidden. Besides, there were other implementations in the town like Beyazıt Square, Unkapanı Street, Beyazıt Aksaray Street etc.

As mentioned before, Haussmannian planning approaches began to be internalized. In order to create development plans, Ekrem Hakkı Ayverdi, an engineer with military education prepared Istanbul maps in 1875-76.

In 1882, first construction law of Ottoman Empire (Ebniye Kanunu) was introduced. According to that new comprehensive law; the municipalities would have announced the new streets' opening; they would have prepared fire zone maps; they would have used the half of the lands which were empty for widening roads; the façades of the buildings which were demolished due to street widening would have constructed by the municipalities. Moreover, land owners who would have wanted to construct buildings, must have give place for schools and police station without charge. The height of the buildings depending on the width of five types of proposed streets indicated land values. It can be seen that, with these developments, especially fire zones and new immigrant neighbourhoods were constructed in grid plans.

When we came to 1900s, foreign engineers were invited to make the plans of Istanbul. A mapping committee in 1909 prepared the map of Istanbul in 1:2500 scale. The Mayor of Istanbul in this period, Cemil Topuzlu, took important steps in

the development of urban space. He managed to improve fire zones and constructed new streets with a width of 30 meters.

4.2.6 Urban planning and property relations in Republican period

The act of *İttihat ve Terakki* (Committee of Union and Progress), which began in 1908, was completed through the establishment of the republic of Turkey in 1923. The new regime brought radical changes along. Ankara, as the new capital city of Turkey, should have planned in a modern way to create the new bourgeoisie life. On the other side, west Anatolian towns that were destroyed by great fires necessitated to be planned again. Also, the new Turkish emigrants who came in the place of non-Muslims who left Anatolia in the First World War and Turkish war of independence should have been resettled. (Tekeli, 2011)

For the implementation of new plans in the western towns of Anatolia, the same approach was valid for the planning of fire areas in the Ottoman period. Dissimilar to Ottoman period, land owners had been leaving their properties as they were burned in fire. Therefore, it indicated problems in property relations. It was solved by a new law giving the municipality the authority of planning in the fire areas in which more than 150 buildings were demolished. The areas of fire were accepted as fields and the land values of of the fields for the landowners were determined and paid by a commission. The process was carried out by the cartographers who were educated in the Ottoman period.

Istanbul Municipality published essential books and magazines about urban planning of Istanbul. Activities of the municipality became effective in institutional development of Turkish municipalism and urban planning. The maps of Istanbul in 1:5000 scale, including Beyoğlu and Kadıköy regions, were prepared in order to work on development plans on it. Since there was not an increasing population in Istanbul, the plans, which were implemented in fire areas, did not provide any development for the areas. Generally, low income groups were settled in those areas and caused an urban collapse in the city centre for the opinion of the municipality. Therefore, taking aim at new estate investments, wider streets are constructed. Consequently low income groups began to settle in urban peripheries (Tekeli, 2011).

4.2.6.1 First urbanization movements between 1930 – 1945

In the 1930s, as a result of the great depression, single party regime became effective in Turkey. In that period, government mainly desired for contemporary

civilization and bourgeois life. Urban health became the subject of urban planning and management. In this context, planning and management practices were controlled through regulations. With municipalities' legislation, the law no. 1580, scope of authority of the municipalities expanded. Thus, fund problems occurred and Bank of the Municipalities (today's the Provincial Bank: *iller bankası*) was founded in order to solve it.

When we look at the planning practice of that period, we can see that since the rate of urbanization was low, development plans with a modern approach were implemented to the old towns of preindustrial period. Municipalities must have prepared town plans for the settlements populated over 5000. New construction operations caused the urban growth. Another practice was the Legislation of Building and Roads (Yapı ve Yollar Kanunu) was introduced. However, it was not a development plan law since it provides street wideness and land use quantities as seen in Ottoman period.

As Tekeli states that land property is the most important tool in implementation of urban plans. In the system of the 1930s, there was no considerable authorization that was given to the municipalities by the land acquisition acts. Nevertheless, through the acts; in 1934, registered lands were expropriated ad valorem tax; in 1939, which was tenfold of gross revenue were paid back to the owners of registered lands, and in the legislation of 1940, costs of expropriations were defined as valorem land and building values (Tekeli, 2011).

In that period, the municipality of Istanbul followed the path of planning experience of Ankara by the plan of Istanbul. European engineers and architects were invited to a competition to make the plan of Istanbul. At the end of the competition process, even though the plan of Eltgöz was awarded, it was not implemented. Instead, another competitor, urban planner Prost was invited again to make the plan of Istanbul. Prost accepted the invitation on condition that he could work with municipality engineers, architects and topographers.

In 1937, he developed a master plan having decisions about railways, seaway, infrastructure, marketplaces and so on. Prost had planned Istanbul based on the highway networks. Gül (2012) states that: "Prost placed considerable importance on establishing an uninterrupted traffic network throughout the city and, in the manner of Haussmann's plans for Paris, proposed several large boulevards and associated works such as viaducts, bridges and tunnels" (p. 100). However, he stated that the new network should have been built with benefits from topography. The reason is

that, as seen in the previous implementations, expansions of existing streets were undesirable due to high expropriationprices, and the duration of the process made it difficult and unstable buildings were constructed due to the shrinking of the lands (Tekeli, 2011). In the Historical Peninsula, a north-south connection was provided with the given majority to Atatürk Boulevard. As can be seen from the plan (see Figure 4.12) Atatürk Boulevard divided the Historical Peninsula in two regions. In this point, we also see that Millet Street was extended from Aksaray region to Istanbul-Edirne motorway (Gül, 2012).

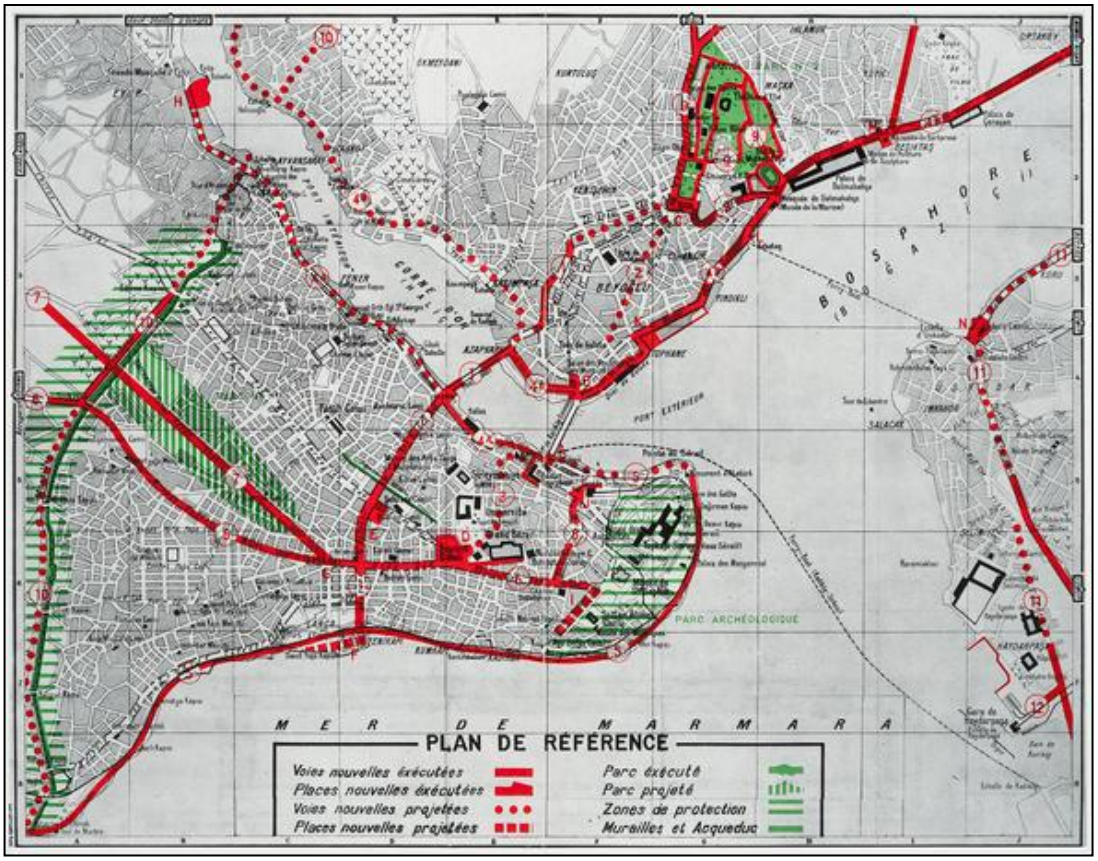


Figure 4.11 : Henry Prost's Istanbul Plan (Url-5).

There were two ways of urban planning organization in Turkey between 1933 and 1945; governmental offices and contractors. Planning practices in that period were mostly concentrated on planning of neighbourhoods, villages, old towns, new towns and regions.

Historical and natural values were regarded in the planning approaches during that period. However, social structures of the towns were not considered assuming that there was only a middle class and no low incomes.

After the Second World War, Turkey entered a fast period of urbanization and a new socio-economic process in which old planning policies did not serve.

4.2.6.2 Developments between 1945-1955

The towns, which fell into ruin after the Second World War, became the focus of new urbanization and architecture approaches in the world. Particularly, housing and roadway networks were subjects to the planning practice. Consequently, different disciplines came together and searched for the solutions of urban problems in terms of regional scope in the West (Tekeli, 2011).

Naturally, those developments in the world influenced on Turkey. Beginning the multiparty system, government of Turkey began to deal with the urbanization problems such as housing and squatting. While in the planning of Anatolian towns, competitions were still the main way; Prost's plan became inadequate in rapidly growing Istanbul. In that period, industrialization process accelerated. The population of Istanbul increased one-and-a half times from the 1950s to the 1960s (İBB, 2009). Migration to the cities like Istanbul and Ankara brought a new urban problem: squatting.

The institutional changes were seen which included regulations giving more authority and fund to the municipalities. Constructions of apartments, housing loans and legitimization of squatters were the most remarkable evolvements. Urban form began to change; vacant lands, parks and other open spaces began to fill with the buildings.

4.2.6.3 Urbanization process between 1955-1980

Between those years, big development operations of Prime Minister Menderes took an active role in urban planning practice. On the other hand, professional chambers were in opposition to those developments and they searched for a new model for the valid urban planning practice. The urban planning approach of Democrat Party and Prime Minister Menderes caused several destructions in urban fabrics.

Important evolvements in that period were constitution of Ministry of Development and Housing (İmar ve İskan Bakanlığı) and State Planning Organization (Devlet Planlama Teşkilatı).

Away from urban planning principles, Prime Minister Menderes principally began expropriations in Istanbul with the intention of demonstration of Turkey to the West. In this respect, developments as a result of the expropriations were street widening, expansion of building surroundings and decorating public squares with huge buildings (Tekeli, 2011). As can be seen from the process, Haussmann's Paris plan continued to be the greatest example for politicians to regulate the cities in Turkey.

Constructions of Vatan and Millet streets and Atatürk Boulevard as well as widening Ordu Street all could be seen as the reflections of Paris plan of Haussmann.

Since land values increased through rapid urbanization in Istanbul, there became a problem that single buildings could not be built on single lands. As the outcome of those developments, in 1965, condominium law was introduced.

After 1960s, necessity of housing, transportation, and infrastructure arose as the population of Istanbul increased. Rate of automobile ownership was also increasing and therefore, transportation networks began to be consolidated. In 1973, construction of Bosporus Bridge (Boğaziçi Köprüsü) was realized which has joined two sides of the city of Istanbul and constituted the spine of the city's transportation network (IBB, 2009).

4.2.6.4 Urban space between 1980-2014

In the period between 1980 and 1990, expropriations, demolitions, development of coastal line were seen. The second bridge of Istanbul, Fatih Sultan Mehmet Bridge, was constructed in the north side of the city in 1989. This bridge was both a reason and result of the growing population of Istanbul. With new transportation networks, city began to expand and spread. It turned into a metropolis and hence alternative centres developed in the city (IBB, 2009).

Urban renewal and urban transformation projects came up in 1990s. Implementations which did not consider social structure, turned into urban gentrifications. Non-governmental organizations and TMMOB were against those enforcements.

In the last decade, as well as gentrification projects, a third bridge, new subways and other transportation networks, gated community projects, projects of TOKİ and the work of Ministry of Environment and Urban Planning have been influencing the cities and especially Istanbul as the focus of all investors and government. These projects which were criticized as not being sustainable for the city of Istanbul, by ignoring right to the city and natural environment of the city, have continued to create major changes in urban dynamics resulting in major changes in morphology of the Historical Peninsula.

4.3 Elaborating Urban Fabric Transformations

Transformation of urban fabric in the Historical Peninsula is explored in detail through the cases of Beyazıt, Aksaray and Yenikapı. Since these regions are at the

most crucial transportation lines (see Figure 4.13), transformation of the morphological features of the built area is elaborated within historical process.

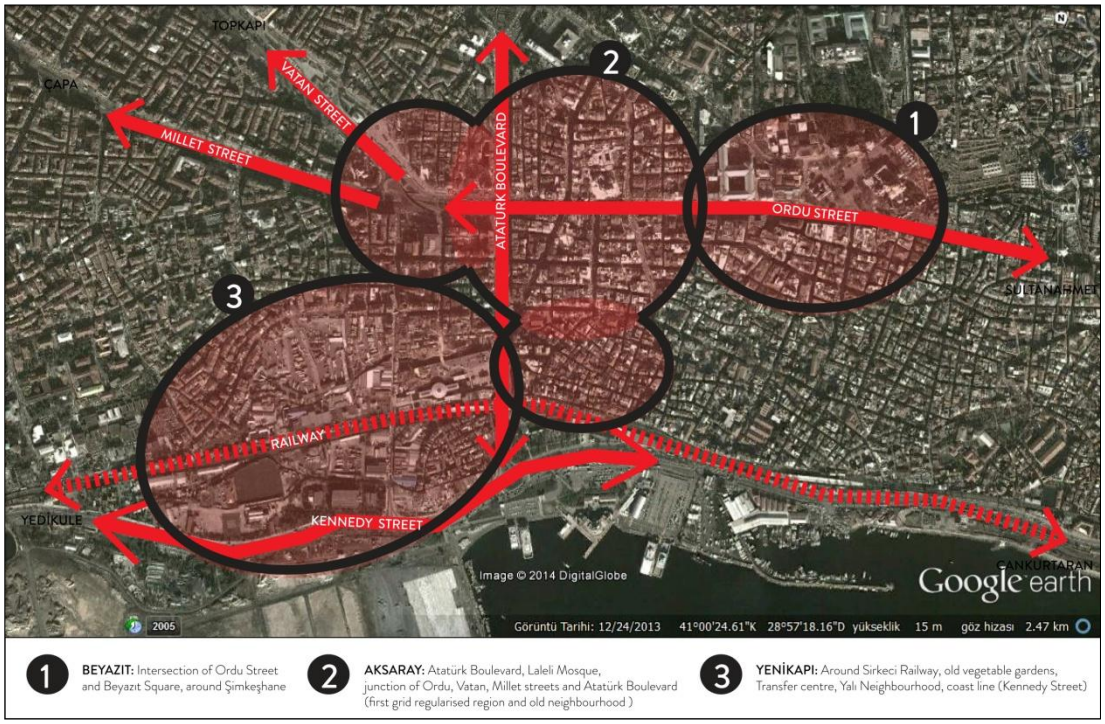


Figure 4.12 : Focused case areas and important transportation axes which become deterministic for the study, prepared by author.

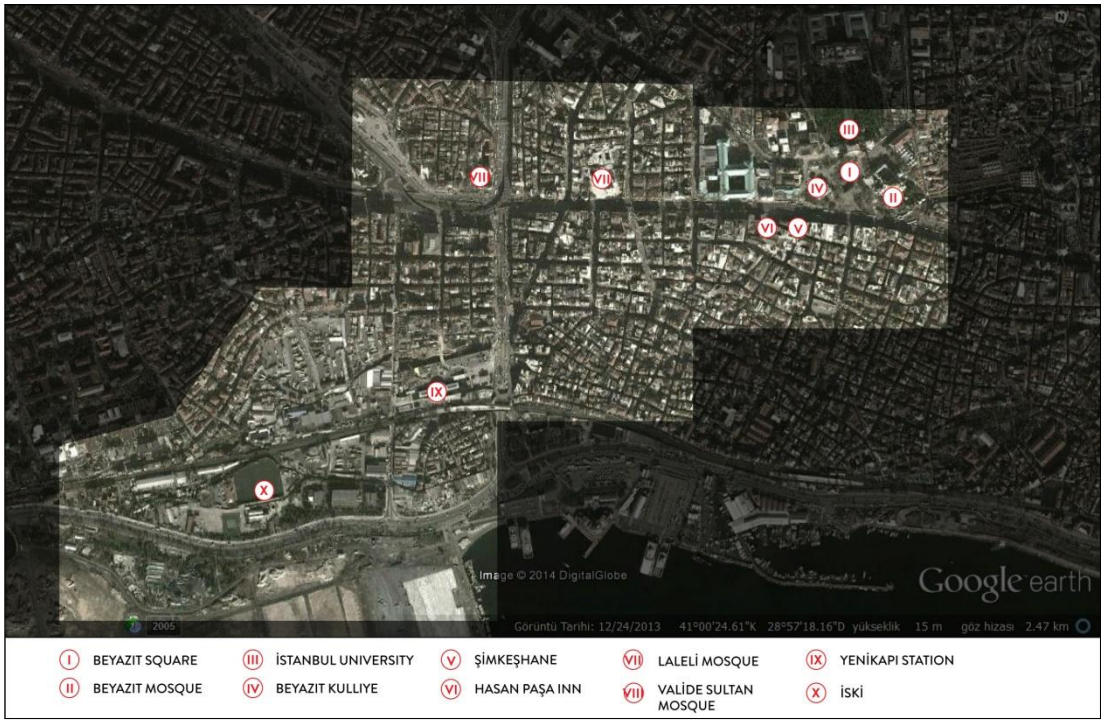


Figure 4.13 : Significant buildings and places in the study area, prepared by author.

4.3.1 Beyazıt Square and surroundings

In Roman period, place of Beyazıt Square was Forum of Theodosius (before that it was named as Forum Tauri by Constantine I) which was located on the space between Beyazıt Mosque and madrasah of today. It had a triumphal column in the middle like other Roman forums and it was connected to Mese. There was a triumphal arch which was erected on the west side of the Forum. Also, today's area of Istanbul University (faculty of letters and sciences) had been the place of three Basilicas of Byzantium. Around the forum, civic buildings like churches were built.

As Istanbul was conquered by Ottomans in 1453, Old Palace was built at the north side of the forum, where is the highest point of Beyazıt. Mint of Ottoman (Şimkeşhane), bazaar areas and Grandbazaar were formed at this period. In the 1500s Beyazıt Mosque and *külliye* (Islamic social complex) was constructed and the square took a new shape and it became the centre of Istanbul. In the 1800s the Mosque integrated to Beyazıt Square. In 19th century, the square was used as bazaar/exhibition area (Kuban, 1998).

Figure 4.14 : Beyazıt street pattern based on Ayverdi map in 1875-1882, prepared by author.

In Early Republican period, Beyazıt Square was designed and planned many times. Between 1923- 1924, a fountain pool in round shape was placed in the middle of the square and tram line entwined around the pool (Kuban, 1998). Later, motor vehicles dominated the area. In 1933, the Old Palace building was given to Istanbul University. With the plan of Prost in 1937-1938, traffic flow was removed from

Beyazıt Square and it began to serve as a public square again. In Prost's plan of Istanbul, as many other proposals on street widening east part of Divanyolu up to Çemberlitaş, there was a road widening proposal. However, it was not executed. At the beginning of the 1940s, the Faculty of Letters and Sciences was built. The building became a new morphotype with its huge size and architectural style in the urban fabric.

Figure 4.15 : Beyazıt Square in 1930s (Url-6).

Figure 4.16 : Beyazıt street pattern based on Pervititch map in 1935, prepared by author.

The significant changes in these areas were seen in mid 1950s. In the years of 1956-1957, known as Menderes period in Turkey, Divanyolu (Ordu Street) was widened from 9,5 m to 30 m. That development in the main spine of the Historical Peninsula brought the destruction of many historical buildings like Şimkeşhane and Hasan Paşa Inns, as well as some urban blocks. Moreover, with the enlargement of

Ordu Stret, Beyazıt Mosque, the bath, and some other commercial buildings began to stay in upper level whereas Ordu Street was developed in lower level. After that, new commerce and business buildings began to build up in the area. In the 1960s, several projects for Beyazıt Square were added to the agenda. Especially after 1980, urban design competitions were organized for the square.

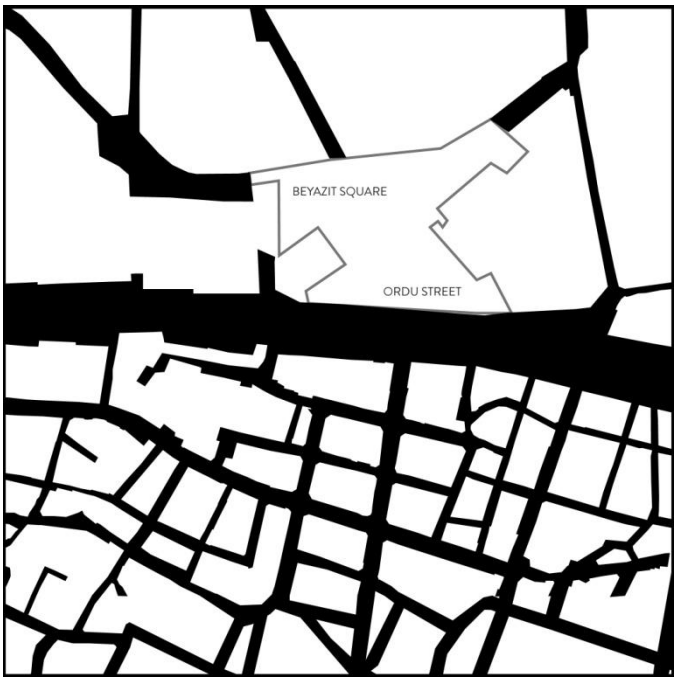


Figure 4.17 : Beyazıt street pattern based on 2011 base map, prepared by author.

Figure 4.18 : Today's Beyazıt Square and Istanbul University (Url-7).

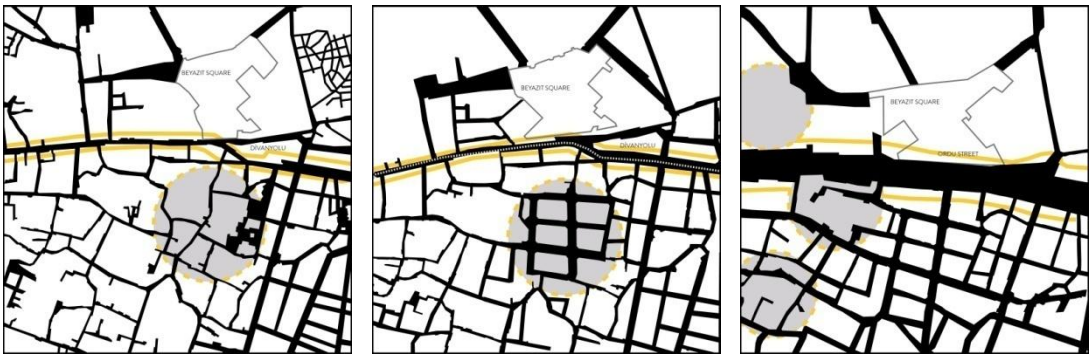


Figure 4.19 : Changed regions marked in street pattern maps of all periods in Beyazıt (1875-1882, 1935, 2011), prepared by author.

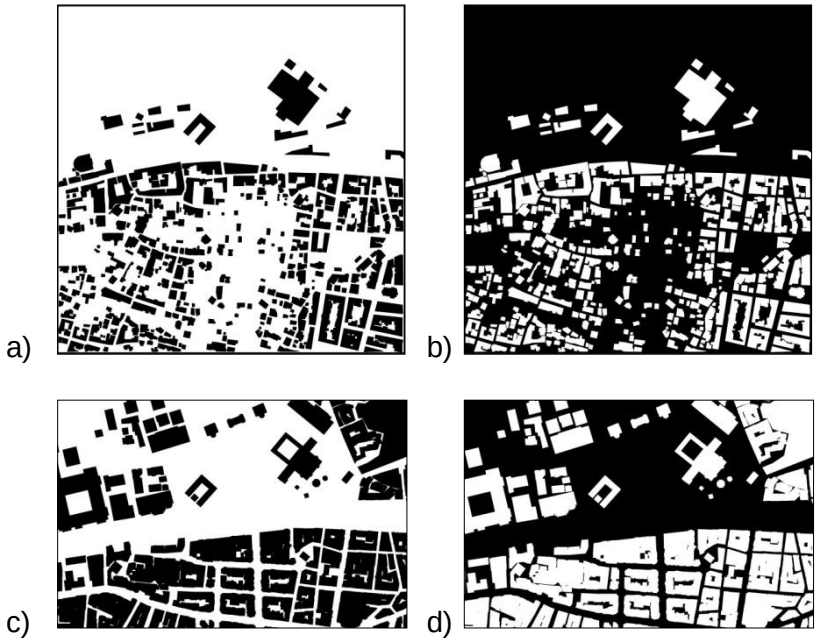


Figure 4.20 : Building blocks based on 1935 and 2011 maps in Beyazıt, prepared by author.
a) Density of building blocks/solids in 1935 b) Open spaces/voids shown with black in 1935 c) Building blocks/solids in 2011 d) Open spaces/voids shown with black in 2011

Widening Ordu Street and destruction of historical buildings

In 1470s, old Mint of Ottoman was built in the place of Şimkeşhane. Educational facilities and shops were added to Şimkeşhane in 1700s. Since the mint was moved to Topkapı Palace in those years, Şimkeşhane had begun to be used as inn. Next to Şimkeşhane, Hasan Paşa Inn was constructed in 1740. Şimkeşhane was abandoned after the fire in 1826, although it was repaired in 1867. During the Early Republician period, as well as some other buildings and building blocks, the north parts of these buildings were demolished, in order to expand road of Beyazıt–Aksaray, Ordu Street, in 1957-1958. This caused a significant change in the

buildings' physical structure. The courtyard of the buildings began to face Ordu Street and Beyazıt Square (see Figure 4.22).

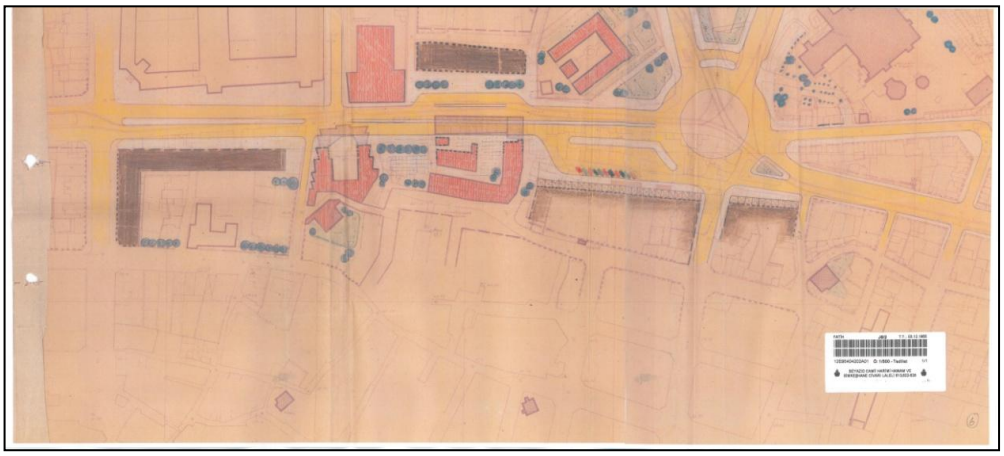


Figure 4.21 : The plan indicating alteration of Ordu Street and building blocks of Şimkeşhane and Hasan Paşa Inn, 1955 (IBB, data retrieved: 20 March 2014).

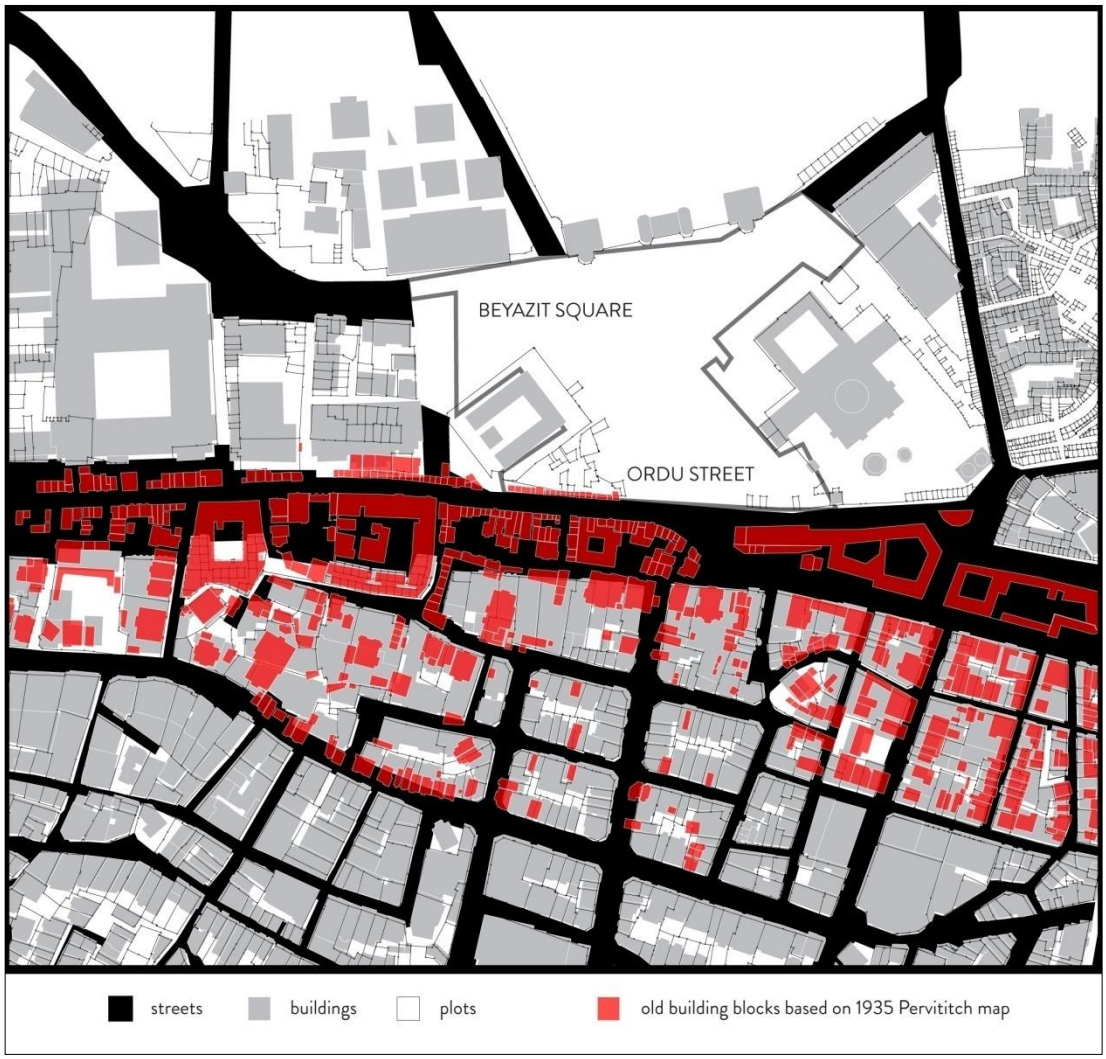


Figure 4.22 : Building blocks destructed in widening of Ordu Street, based on Pervititch map of Beyzıt, illustrated by the author.

In the mid-1960s, it was decided that the rest of Şimkeşhane building was to be used as a public library, so its restoration was finished in 1976. Archaeological findings of Forum Tauri from Byzantium period were exhibited in front of the building. In 1981, the building became public library of city of Istanbul. In 2001, Şimkeşhane building is named as Orhan Kemal İl Halk Kütüphanesi and it is still being used as a public library today. The open space in front of the building, which was once a courtyard before, is green open space with an archaeological exhibition. Fatih Municipality announced that, the area is planned as a park area (see Figure 4.12).

Figure 4.23 : Şimkeşhane park project of Fatih Municipality (Url-8).

4.3.2 Aksaray: fires, regulations, boulevards

Aksaray region was located at the east end of the Mese in Byzantium period. It was near Forum Bovis and today's Aksaray Street was around Amastrian region. Aksaray was an important trade centre and transportation node since it was on the most primary road of the town and it was quite close to Theodosius Port (Kuban, 1998).

After Ottomans settled in the city, this region lost its commercial use. Aksaray was populated by the people coming from the city of Aksaray of Anatolia. Thus, the region was named as Aksaray and it was filled with residential buildings in 17th century. Aksaray was one of the most important regions during Ottoman period because of being at the junction of main transportation axis of the town and the huge green areas. Kuban (1998) identifies Aksaray as a meeting place for Muslim and Christian communities around the region. He also claims that Murad Paşa Külliyesi, Pertevniyal Valide Sultan Mosque and Laleli Mosque (külliyesi) are the most significant buildings which represent Ottoman identity of Aksaray (Kuban, 1998). This region served as a model for very urban fabric change in Historical Peninsula in Ottoman period. In 1856, more than 650 buildings were burned down in the fire of Aksaray (Çelik, 1993). With the code of 185644, the expropriations were

realized due to the regulations such as street widening. Therewith, based on new urban policy of Tanzimat, Mustafa Reşit Paşa, who especially believed in regulation of urban blocks with geometric orders after the fire near Beyazıt Mosque in 1826, tasked Italian engineer Luigi Storari in order to regulating post-fire Aksaray. The new layout was first seen in the plan of Stolpe in 1866 (Pinon, 1998).

Figure 4.24 : Aksaray street pattern before 1856 fire, in 1847, prepared by author.

Storari reorganized the organic urban fabric of Aksaray as a grid pattern as it was expected from the authorities supporting modern changes in the urban pattern. As Çelik explains, Storari's work grounded on existing substantial axes in the direction of north-south (Unkapanı-Yenikapı direction) and east-west (Aksaray Street). He endeavored to widen and straighten the streets in those directions. Determining the main artery of the region as Aksaray, he widened the width of the street to 9.5 meters. Since Storari gave the importance to those axes, he strengthened them with the widths of 7.6 m and 6 m as parallel and intersecting roads (Çelik, 1993). Pinon states that in order to facilitate existing narrow roads, Storari cut the corners of the urban block boundaries at the important intersections by describing them as; "The four cut planes define peculiar lozenge-shaped crossroads" (Pinon, 1998). Indeed, the grid plan of Storari was not regularized with perfect angles and great shaped urban blocks, instead, size of the new urban blocks were similar to pre-existing ones. Although there was not a major change in building sizes, through the cut planes and removing cul-de-sac forms of organic urban fabrics as a result of grid system, some buildings got smaller (Çelik, 1993).

Figure 4.25 : Aksaray street pattern showing first grid regulation after fire, based on Ayverdi's map in 1875-1882, prepared by author.

The fires that ended up the destruction of neighbourhoods leaded the authorities to provide Street Construction Code in 1863 that was aimed street regularizations based on widening, straightening or leveling. Considering pre-existing street networks, it was decided to prepare new plans. While expropriations were practiced for street widening in that process, allotment of lots for property owners were implemented. Pinon states that: "Aside from indicating that they should be proportional to the original parcels, no official requirements for the new designs are mentioned. But neither is design left to private discretion, since public authority controls the overall organization and allocation" (Pinon, 1998, p. 56).

Aksaray was regularized for the second time after the 1911 fire which brought along the design of the largest urban block of the peninsula. Andre Auric who took the helm of Infrastructure Department of Municipality of Istanbul in 1910, emphasized on need of large boulevards minimum of 32.5 meters in order to improve conditions of health, security and infrastructure services. He also supported the idea of transforming military properties (like barracks) to park, public square and garden areas in the city. In Auric's proposed street network plan for Istanbul, Aksaray region had a great significance. A square, which was located at the intersection of the roads coming from Beyazıt and Theodosian doors, was proposed by him. In Auric's plan, in addition to aesthetics, infrastructure service and open space systems were tried to be developed through geometrical urban block regulations (Gül, 2012). Two

wide diagonal streets interrupted the urban blocks entailed truncations principally as Pinon (1998) claims. Streets were organized in hierarchical order. Even though urban blocks were generally defined in same dimensions, in Aksaray example expand of urban blocks varied between minimum 20 to 30 meters, with a maximum 30 to 70 metres (Pinon, 1998). Gül (2012) states that lately the proposed boulevard axes between Aksaray and Yenikapı became one of the important traffic roads of modern Istanbul. Those urban fabric regulations with widened roads in grid layouts for modernizing also became the roots of subsequent changes in urban form which has been mostly seen as expanding the roads.

Figure 4.26 : Aksaray street pattern after second fire, based on Pervititch map in 1935, prepared by author.

The first apartments of the Early Republican period were constructed in the urban blocks which were formed as a result of the orthogonal street system. Aksaray, especially Laleli region, became the neighbourhood of mid-classes of the society (Kuban, 1998).

As stated before, in the early Republican period, when Henry Prost was charged to make the plan of Istanbul, based on Haussmannian idea of urban planning, he focused on the transportation network of the city by considering population increase and a growing automobile usage. In Prost's plan, the part of Atatürk Boulevard between Aksaray and Yenikapı was already built according to Auric's plan, and created the spine of the traffic plan. The boulevard coming from Yenikapı and reaching the Golden Horn connected to Beyoğlu region through Atatürk Bridge. Gül

(2012) explains that, despite having the extensions of Atatürk Boulevard in cadastral maps of Pervititch in 1936, it was not exactly practiced till Prost's plan due to the financial problems of that time. Width of Atatürk Boulevard increased to 50 meters and it was integrated with several squares from different parts of it.

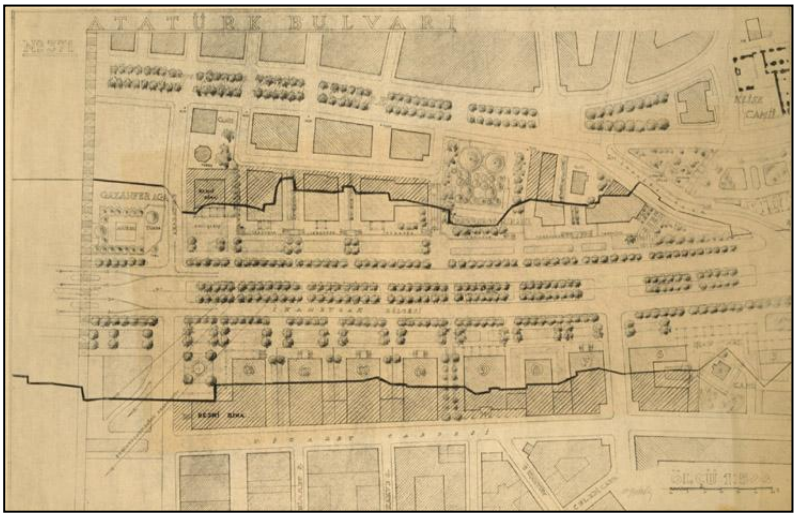


Figure 4.27 : Destruction map in construction of Atatürk Boulevard (Url-9).

Figure 4.28 : Destructions in construction of Atatürk Boulevard (Url-10).

In the middle of 1950s, urban planning approach of was predicated on the connection of commercial and administrative regions via large roads. Regarding the developments on Ordu Street from east side and Millet and Vatan streets from west side with Atatürk Boulevard in north-south direction, Aksaray became the most significant region by being at the intersection of the most important transportation structure of the Historical Peninsula (Gül, 2012). In order to provide construction of expanded roads, a great number of destruction executed in the region as in other urban regions of Istanbul. Those construction activities also caused the decrease of resident population in the region and the deformations on the urban form. Several

historical buildings were destroyed, and the walls of Valide Sultan Mosque's garden facing Atatürk Boulevard was exposed to be demolished.

New connections and highways brought rising population along. Therefore, as a major point of the peninsula, Aksaray began to be shaped with apartments with commerce activities in ground floors after the 1960s. At the end of the 1960s and the beginning of the 1970s, with the construction of viaduct in Aksaray, at the junction of Atatürk Boulevard and the streets of Vatan and Millet destroyed Aksaray Square and a complex motorway network was built in the middle of the Historical Peninsula. Also, Valide Sultan Mosque fell behind the raised roads and lost its special effect in time.

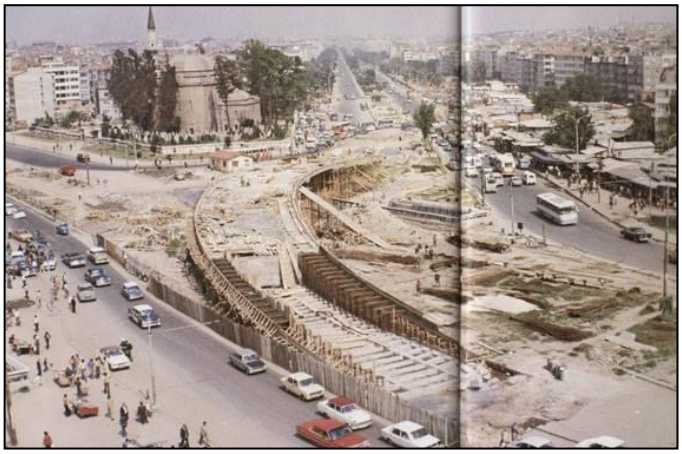


Figure 4.29 : Construction of Aksaray Viaduct in 1970 (Url-11).

Figure 4.30 : Aksaray street pattern based on 2011 base map, prepared by author.

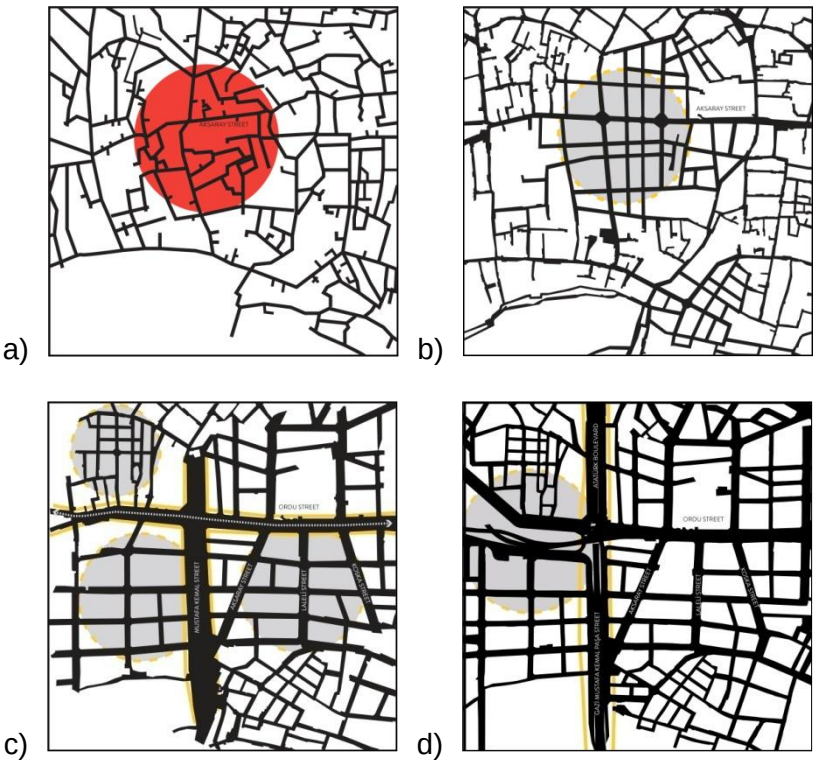


Figure 4.31 : Changed regions marked in street pattern maps of all periods in Aksaray (1875-1882, 1935, 2011), prepared by author.

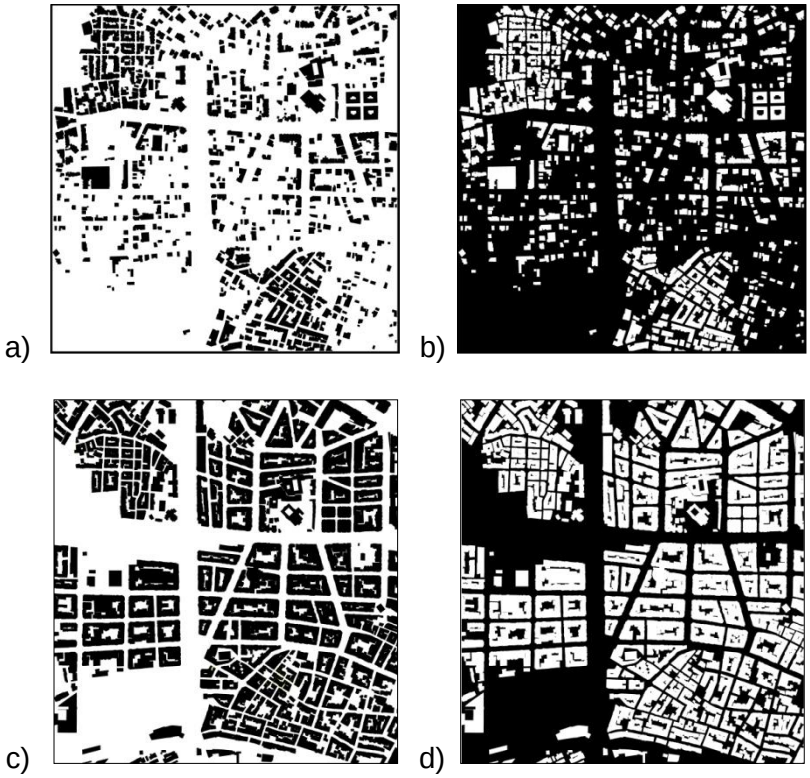


Figure 4.32 : Building blocks based on 1935 and 2011 maps in Aksaray, prepared by author.
a) Density of building blocks/solids in 1935 b) Open spaces/voids shown with black in 1935 c) Building blocks/solids in 2011 d) Open spaces/voids shown with black in 2011

Kuban (1998) claims that historical core of Aksaray was destroyed, because transportation systems was planned by highway engineers and urban conservation concept and consciousness did not developed in those years. Widening of Ordu Street caused the expansion of commercial areas to Laleli region. After the 1970s, residential areas disappeared and Laleli was transformed to a region of commerce and tourism. Old apartments are turned into mid-class hotels and commercial buildings (Kuban, 1998). In the 1990s, after bus terminal of Istanbul was moved to Topkapı, a major development of accommodation facilities was seen, especially in Aksaray-Laleli region. Thus, as a sub region of business, that region has continued its commercial utilization.

4.3.3 From the port to the transportation node: Yenikapı

During the Byzantium period, Yenikapı was at the region of Theodosius Port which was the major port of the city. Port of Theodosius was settled in the mouth of Lykos River. It was the trade point with Egypt's wheat carrying ships. As well as residential areas and bakeries, it is said that a few dockyards were existed in that period.

After Ottoman's conquest of Istanbul, the shrinking port area - due to the deposition of soils coming from Lykos River – began to be used as dockland area in 1500s. As the port area became smaller in the 1700s, relationship between the port and the sea began to fall. Hence, the character of the region came to a change. The area remained inside of the city walls was called as Küçük Lagna Bostanı (small Lagna garden), as for the areas outside of the city walls called as Büyük Lagna Bostanı (big Lagna garden). Yenikapı remained as vegetable garden area until 19th century. The only neighbourhood, which is called Yalı neighbourhood today, in Yenikapı was built by a group of Armenians in 1760s, after the debris of construction of Laleli Külliyesi was filled the area and stone barriers against the waves from Marmara sea were built. The location of Yalı neighbourhood is at the intersection of Atatük Boulevard and coast road. In 1782, urban fabric at the neighbourhood was destroyed by the fire. Pinon (1998) claims that the region is now different according to the map of Stolpe in 1863, by considering the change in its form in 19th century.

Figure 4.33 : Yenikapı street pattern based on Ayverdi's map in 1875-1882, prepared by author.

In 1846, the Armenian Church Surp Tateos Partoğomeos was built in the region. Urban fabric of the region was composed of rectangle urban blocks in grid layout with attached wooden or masonry buildings having a bay window. According to Prost's plan, in the Republican period, Yenikapı train station would have been an international one, bringing along a modern development on the Yenikapı port.

Figure 4.34 : Yenikapı street pattern based on Pervititch's map in 1935 prepared by author.

As seen in previous regions in the study, the most destructive changes in the history of Istanbul took place after the 1950s. In Yenikapı, with the construction of coast road; Kennedy Street reaching from Sirkeci to Florya, shore line was filled. Therefore, the connection between Yalı neighbourhood and the sea was broke off.

Figure 4.35 : Yenikapı street pattern based on 2011 base map prepared by author.

Figure 4.36 : Changed regions marked in street pattern maps of all periods in Yenikapı (1875-1882, 1935, 2011), prepared by author.

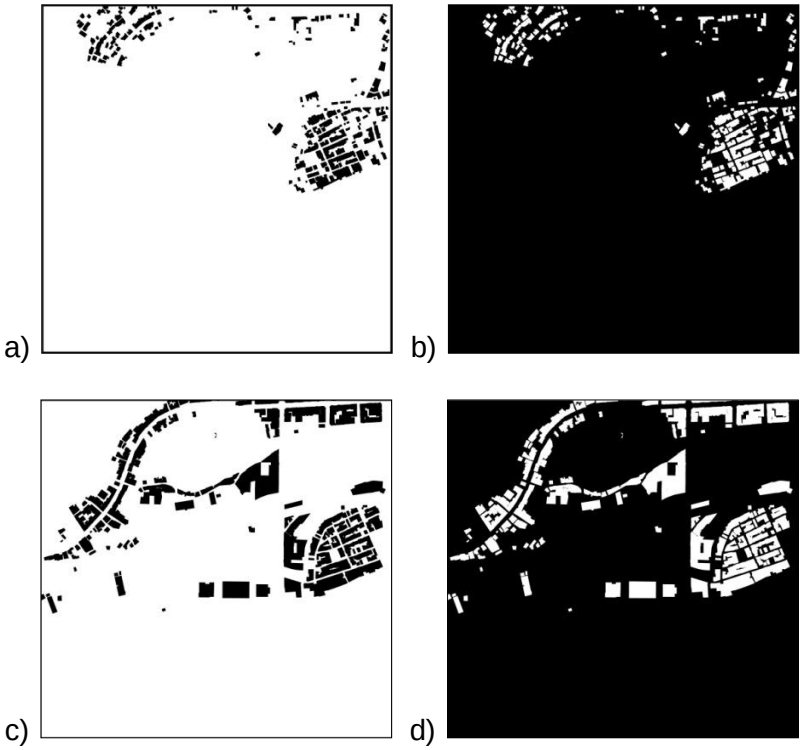


Figure 4.37 : Building blocks based on 1935 and 2011 maps in Yenikapı, prepared by author.
a) Density of building blocks/solids in 1935 b) Open spaces/voids shown with black in 1935 c) Building blocks/solids in 2011 d) Open spaces/voids shown with black in 2011

After 1980s, large scaled projects - which have resulted in various transformation and problems in urban form and urban life - began to come up because of the planning goals of Istanbul in the global scale. Although in the 1990s, conservation decisions were constituted in the historical towns in Turkey particularly, the rising population of metropolis of Istanbul and its urban problems required new transportation solutions for the city. Today, in order to solve the transportation problems of the whole city, Yenikapı is determined as the centre of transfer. Moreover, a new (filled) square is constructed on the Marmara Sea (Figure 4.39).

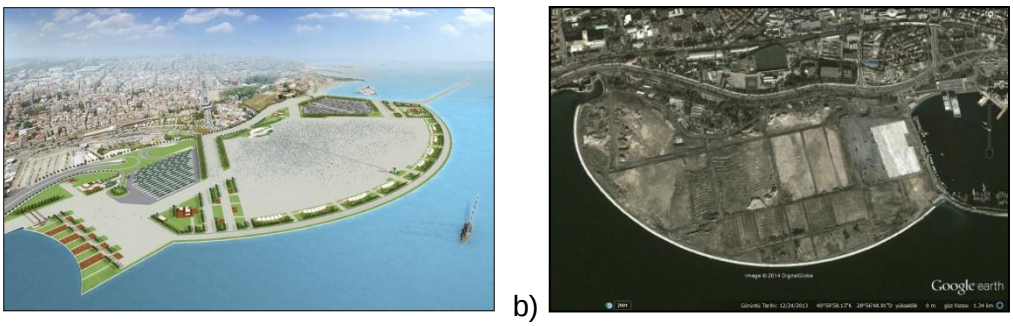


Figure 4.38 : a) Proposed Yenikapı Square Project (Url-12) b) Yenikapı Square, Google earth, 2014

As regards to the projects which have direct effects on the Historical Peninsula, process of existing projects in Yenikapı (i.e Marmaray Poject, Yenikapı Renewal Project) during the last decade are discussed in the following table:

Table 4.1 : The projects in Yenikapı.

Project Name	Aim	Discussions about spatial influences
Marmaray Project	Connecting Anatolian side of Istanbul with Historical Peninsula via rail system	○ Route of the tunnel is founded inaccuracy ○ Destructive effects on natural environment, urban fabrics and archaeological regions ○ Inadequacy of feasibility analyzes
Istanbul Subway Project	Integrating European side of Istanbul via subway system	
Eurasia Tunnel Project	Connecting Anatolian side of Istanbul with European side via tunnel system which allows rubber-tired vehicles passing	○ Junctions, overcrossing, undercrossing, connecting roads that proposed with the project is founded incompatible ○ Negative influences on urban fabrics and historical regions
Yenikapı Renewal Project III. Stage	Creating a urban renewal program in order to conserve the historical pattern and civil architectural buildings through participating stages	
Yenikapı Transfer Point and Archaeo-park Area Project	Integration of Subway of Taksim-Yenikapı, subway of Aksaray-Airport, IDO and Marmaray as the biggest transfer centre of Europe and exhibition area for archaeological findings that came to light through excavations of the projects	○ It will cause excessive attraction to Historical Peninsula and crate danger for historical urban fabric
Yenikapı Square Project	From IDO port to Samatya Training Research Hospital, filled meeting, demonstration, exhibition, concert or expo area approximate for 1 million people, biological treatment plant	○ From and silluete of the Historical Peninsula was largely changed by a man-made for the first time ○ Yenikapı may be excluded from the world heritage site of UNESCO ○ Incompatible with the identity of Historical Peninsula

These projects have been influencing the urban form of the Historical Peninsula as well as Yenikapı region. As a result of being the major transportation node of Istanbul, the movement of the whole city will be the carried by the Historical Peninsula. Also, the lands of the peninsula will become open to change as a result

of property relations. Thus, conservation of the peninsula will become impossible and a significant transformation in the urban fabrics of the Historical Peninsula becomes unavoidable.

4.4 Typological Examination of Urban Block Components

In this part, urban blocks are analyzed in a closer scale, and street, building and plot relations are elaborated. Property relations must be examined in terms of influencing urban form directly as a result of regulating properties with legal tools. Albeit in the investigation phase of this thesis study, required data could not be obtained from the institutions. Therefore, property relations are analyzed as an exploration of public, private and semi-public areas from focused study areas. Type of property ownership, plot sizes, territorial explorations within street-building-plot relations and building – plot relationship based on street – building hierarchy are studied in Beyazıt, Aksaray and Yenikapı regions.

4.4.1 Urban block components and relations

The urban block components in Beyazıt, Aksaray and Yenikapı regions are examined. Plot patterns, street network and direct relations based on building blocks (between streets and buildings; plots and buildings and all three components together) are discussed in this part.

Firstly, parcel sizes are mapped for study areas of Beyazıt, Aksaray and Yenikapı. Classification of areas are determined at the intervals of 0.525-370m2, 370-1530 m2, 1530-4247 m2, 4247-8849 m2, 8849-16568 m2 and 16568-40786 m2. It is observed that, parcel areas of commercial and residential buildings generally remain under 4247 m2. On the other hand, utilizations like socio-cultural or religious facilities have larger plot areas.

Figure 4.39 : Parcel areas in Beyazıt, prepared by author.

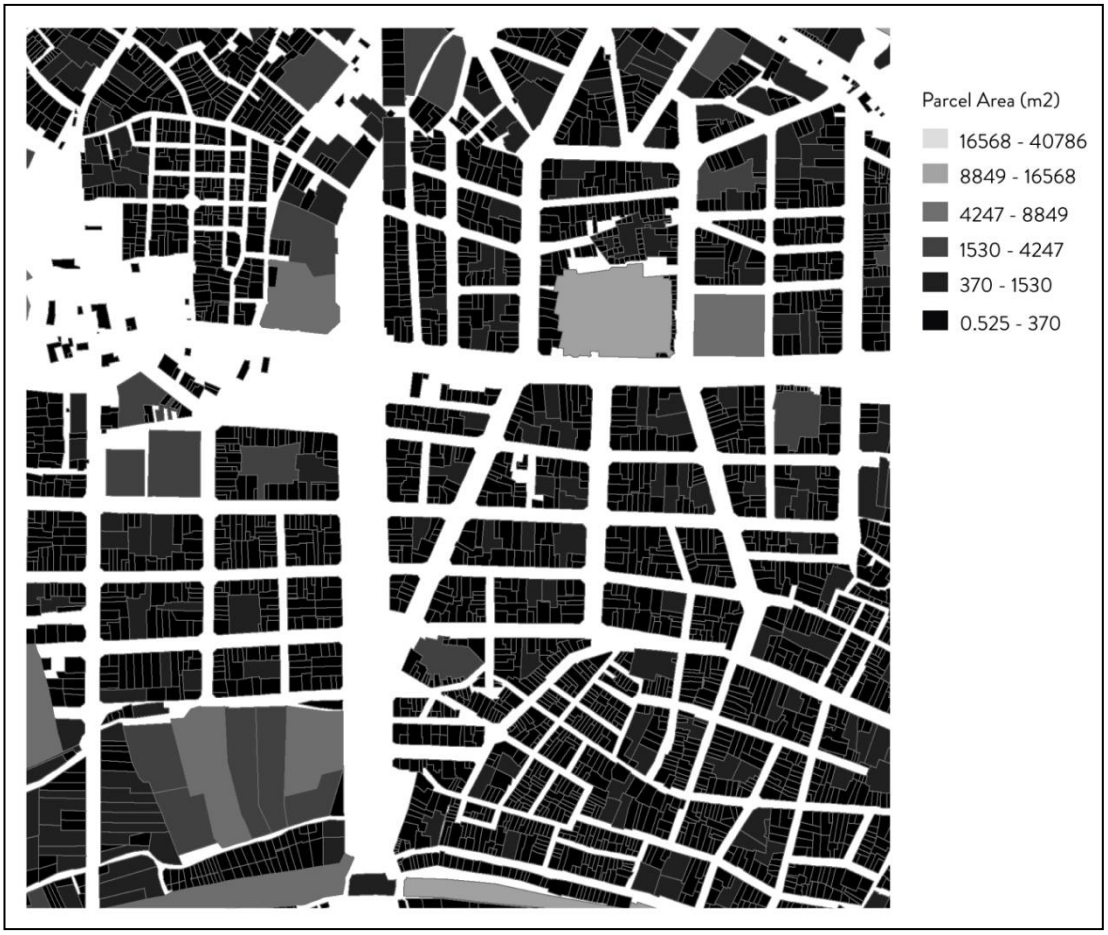


Figure 4.40 : Parcel areas in Aksaray, prepared by author.

Figure 4.41 : Parcel areas in Yenikapı, prepared by author.

Street widths in the study areas are categorized and illustrated with following maps. In this categorization, streets are observed within four width intervals. Since in Construction Law, minimum street width is given as 7 m (for pedestrian ways), this value is taken as breaking point. Narrower streets from 7 m are described with black lines in the analysis. Then, the streets are categorized between 7 and 10 meters, between 11 and 20 meters and between 21 and 40 meters.

According to the analyses, streets which are up to 7 m wide can be seen at the south of Ordu Street in Beyazıt, north-west and south of Aksaray region and Yalı neighbourhood in Yenikapı. These regions represent the old neighbourhoods which are almost unchanged in general.

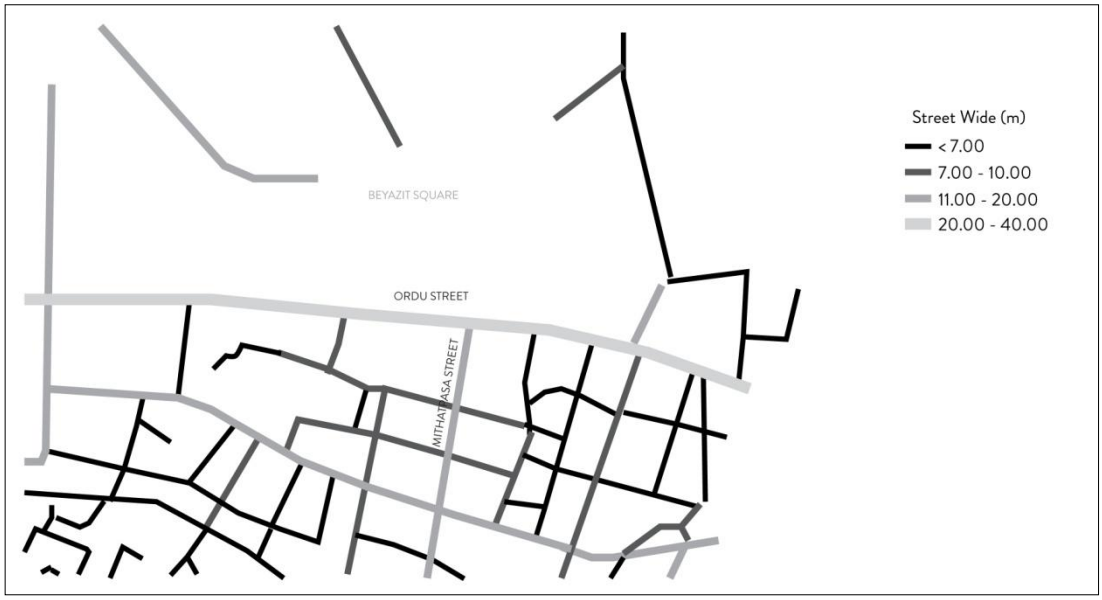


Figure 4.42 : Street widths in Beyazıt, prepared by author.

Figure 4.43 : Street widths in Aksaray, prepared by author.

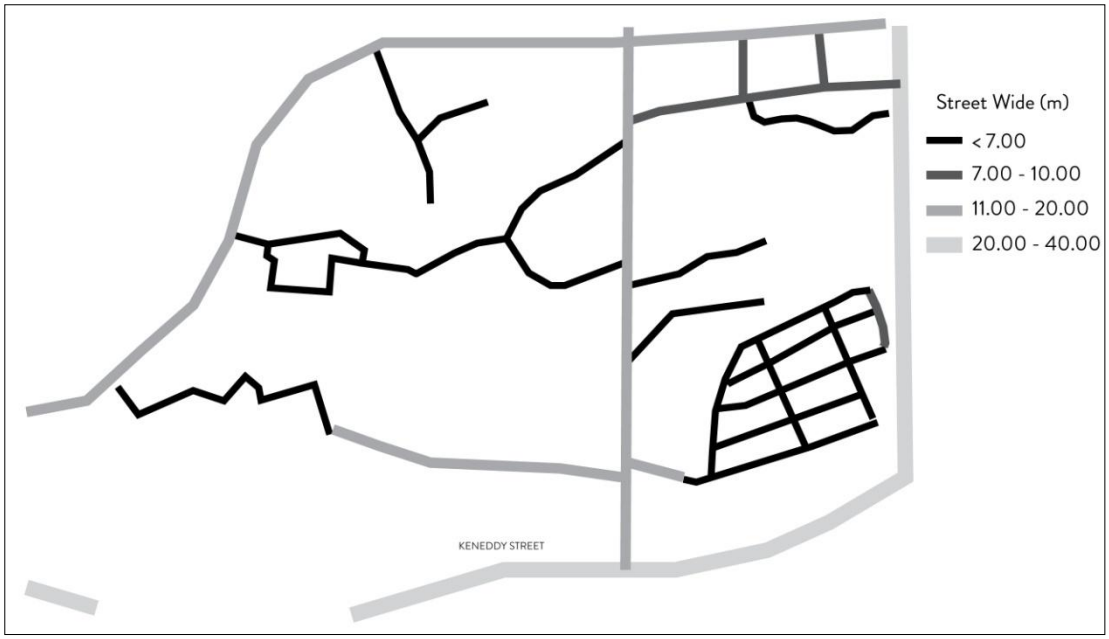


Figure 4.44 : Street widths in Yenikapı, prepared by author.

Based on the data by base map of the Historical Peninsula, values of width and length, and paving material of the major roads in the study areas are tabulated as following:

Table 4.2 : Characteristics of major streets in the study areas.

Street Name	Width (m)	Length (m)	Material
Ordu Street	30 m	900 m	asphalt
Atatürk Boulevard	40 m	1.75 km	asphalt
Aksaray Street	20 m	340 m	asphalt
Laleli Street	20 m	250 m	asphalt
Mithatpaşa Street	15 m	300 m	asphalt
Kennedy Street	40 m	13 km	asphalt

Consequently, building – plot relationship based on street – building hierarchy is observed in order to understand general urban block configuration of the study areas in the Historical Peninsula. Regarding this, building and street relationships are indicated four type of situations; buildings surrounded by 3 streets, buildings surrounded by 2 streets (corner lots), buildings facing streets parallel to each other, buildings facing one street on one side. Building and plot relationship is observed in

three categories: buildings which sit in the whole lot, buildings which do not sit in the whole lot and buildings which sit in several plots. Nested in the plots and surrounded by streets, the building blocks from Beyazıt to Aksaray region are generally sitting in the whole lot; however, differentiated urban block relationships can be seen in different parts of the regions. In Yalı neighbourhood of Yenikapı, buildings are also sitting the whole lot. Particular examples are shown in the following Table 4.3.

Following this, typological division of building relations with their neighbourhood is tabulated in terms of plot ownership type. Building plot relations are classified as independent, attached and with courtyard, whereas land ownership is categorized in three groups as public, foundation and private as can be seen in Table 4.4. Based on the given examples of building blocks, it can be said that the lots are completely filled with buildings in the private plots, while in the historical buildings with religious or cultural functions; some parts of the plots are used as courtyards or gardens.

a)  b)  c) 

Figure 4.45 : Building block samples from the study areas. a) from Ordu Street, Beyazıt b) from Ordu Street, Aksaray c) from Yalı neighbourhood, Yenikapı

Table 4.3 : Dominant examples of building – plot relationship based on street – building hierarchy from study areas, prepared by author.

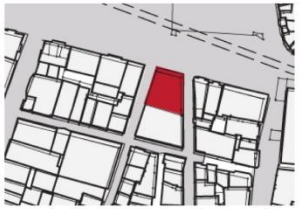
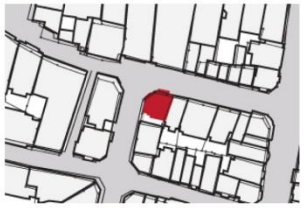
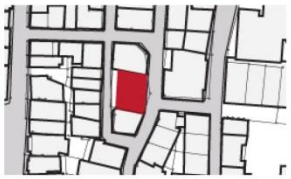
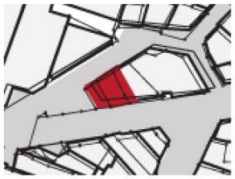
BUILDING - STREET RELATIONSHIP				BUILDING - PLOT RELATIONSHIP
surrounded by 3 streets	surrounded by 2 streets - corner lot	facing 2 streets parallel to each other	facing 1 street on one side	
 neighbourhood: Mimar Hayrettin, **Beyazıt**, block: 223, plot: 2	 neighbourhood: Mesihpaşa, **Aksaray** block: 763, plot: 24	 neighbourhood: İskenderpaşa, **Aksaray**, block: 904, plot: 9	 neighbourhood: Mimar Kemalettin, **Aksaray**, block: 764, plot: 67	sitting in the whole lot
	 neighbourhood: Mimar Kemalettin, **Beyazıt**, block: 681, plot: 12	 neighbourhood: Guraba Hüseyin Ağa, **Beyazıt**, block: 888, plot: 3	 neighbourhood: Yalı, **Yenikapı** block: 831, plot: 24	not sitting in the whole lot
 neighbourhood: Mimar Kemalettin, **Beyazıt**, block: 626, plot: 1-12, 31,36,38,39, 53-91	 neighbourhood: Mimar Kemalettin, **Aksaray**, block: 765, plot: 57, 80	 neighbourhood: Mimar Hayrettin, **Beyazıt**, block: 199, plot: 56, 62	 neighbourhood: Mesihpaşa, **Aksaray**, block: 807, plot: 33, 34	sitting in more than one lot

Table 4.4 : Examples from the study areas showing typological division of building relations with neighbourhood in terms of plot ownership type, prepared by author.

4.4.2 Analysis of ownership of territories

Urban block elements, which are town plan components in Conzenian tradition, are territorial entities apart from their physical form characteristics. Streets, buildings and plots require the examination in terms of property relations. Hence, the aim of this part is to analyze the ownership pattern of the study areas. Public, common, private, private foundation and foundation management classifications are determined and the patterns are created.

As can be seen from the following maps, a great majority of the study areas contain private ownership patterns. Around Beyazıt Square, foundation and public lands can be seen. In Aksaray, except for religious facility areas with foundation ownership and common parcels at the Yenikapı region, dominancy of private ownership can be seen again.

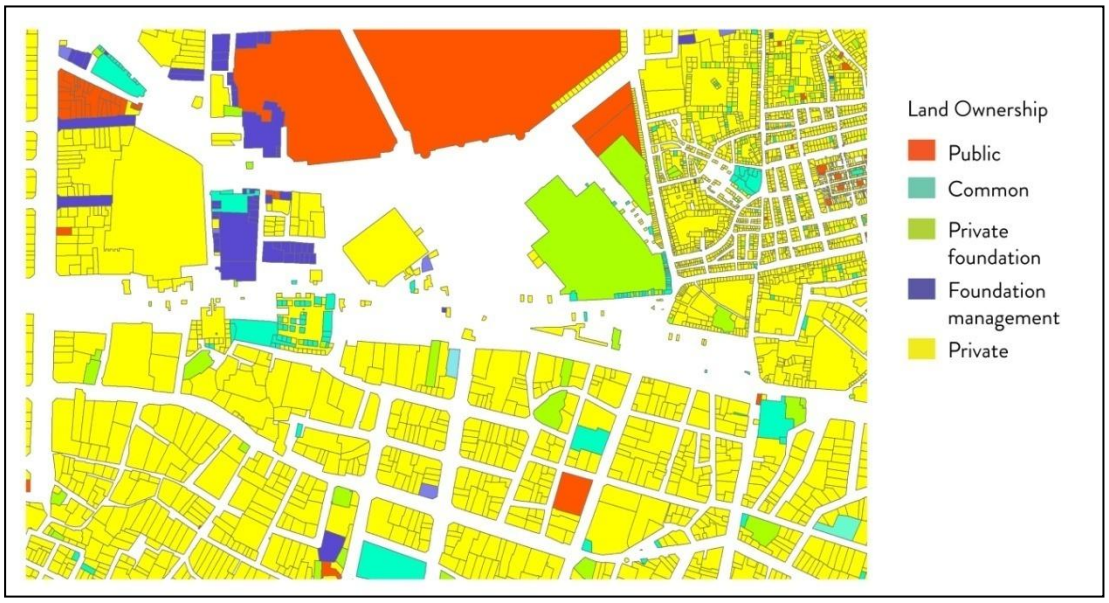


Figure 4.46 : Property ownership of Beyazıt, prepared by author.

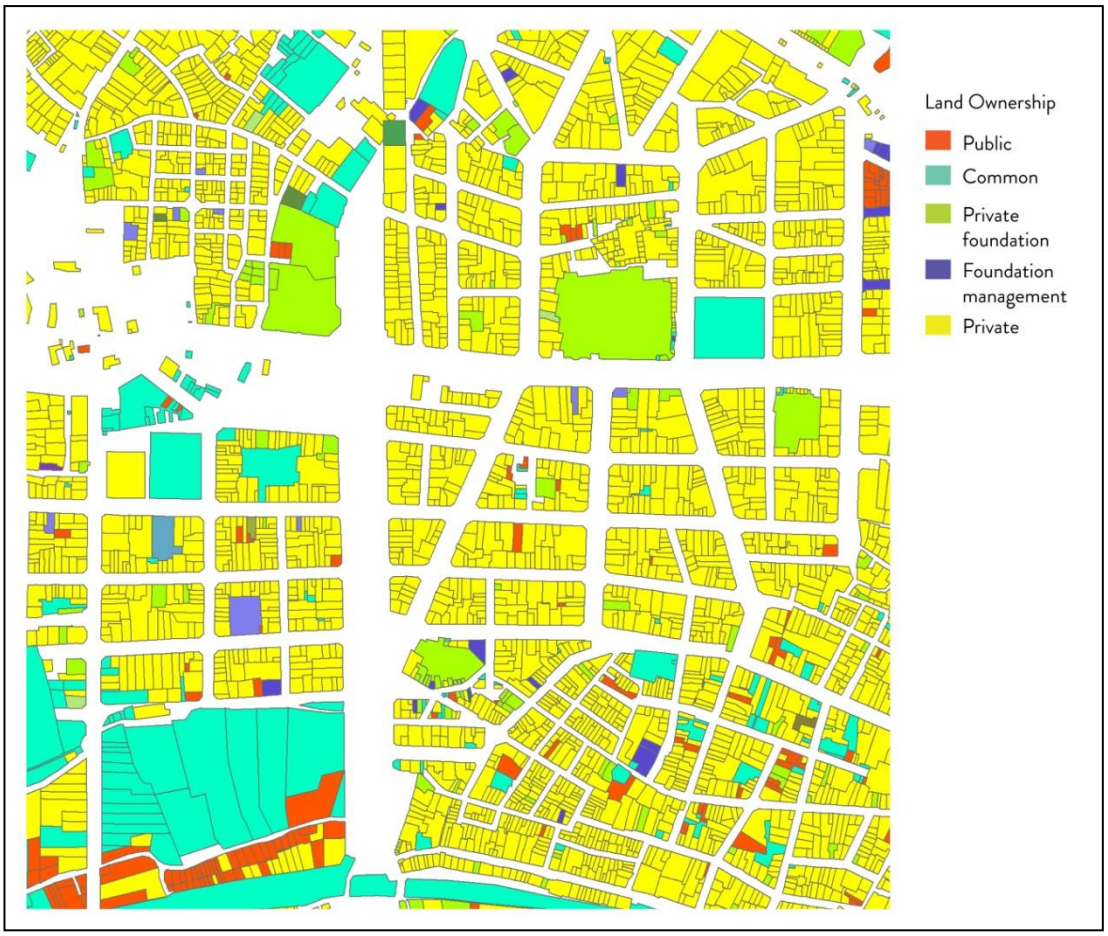


Figure 4.47 : Property ownership of Aksaray, prepared by author.

Figure 4.48 : Property ownership of Yenikapı, prepared by author.

The ownership patterns analyzed above represent territorial identities of the plots. Beyond this, all urban block components which are stated as streets, buildings and plots represent territorial identities as well as morphologic elements in urban development. Generally, streets (with squares) are public properties, whereas buildings are generally private properties. Regarding this, plots of buildings can be taken as common properties as they are used for gardens, courtyards etc. Also, several buildings which are claimed as public only serve some definite groups (like shopping malls, religious buildings etc.). Therefore, by analyzing sections from critical districts of three study areas, territorial identities of urban block components are indicated.

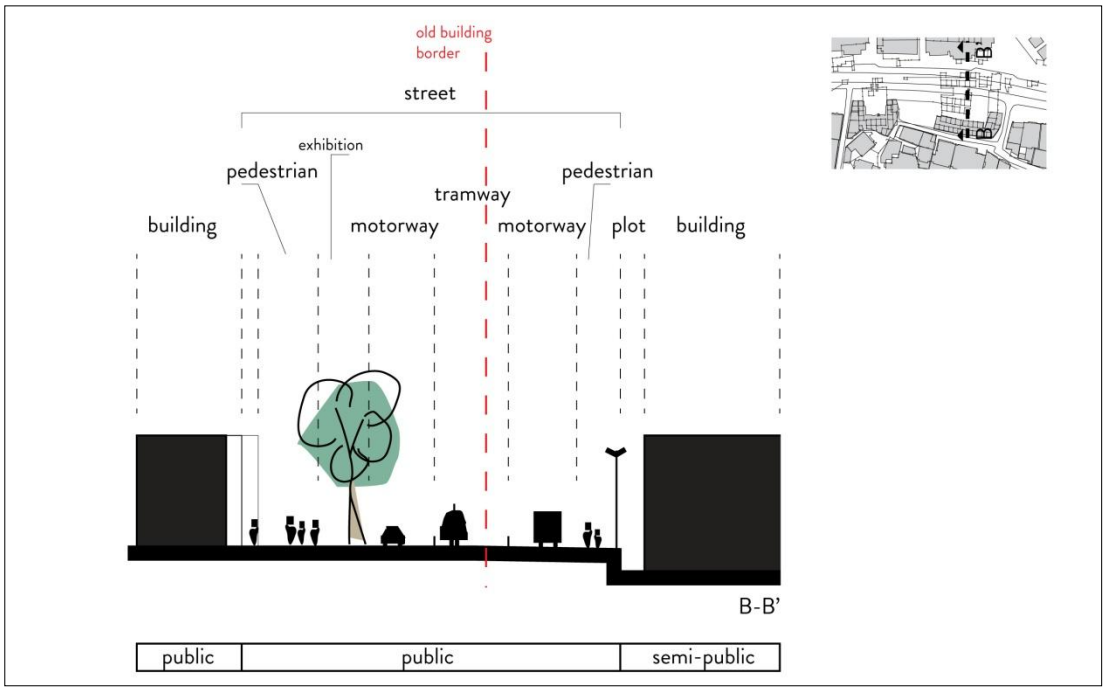


Figure 4.49 : Territorial analysis of urban blocks in Beyazıt, section B-B', prepared by author.

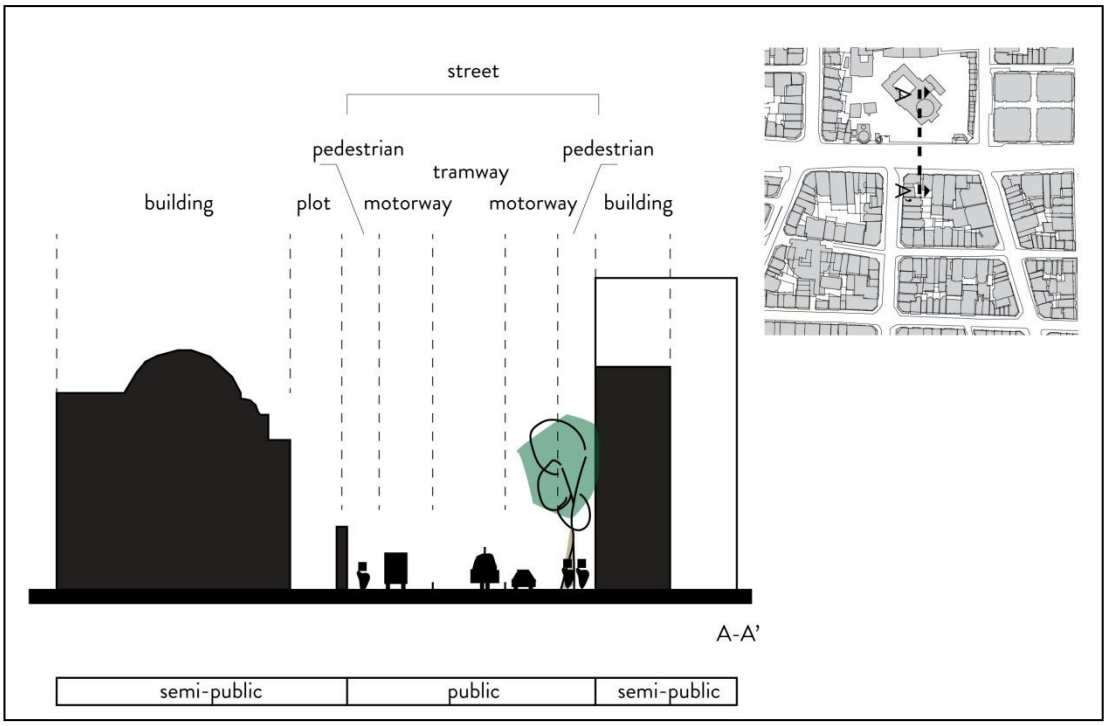


Figure 4.50 : Territorial analysis of urban blocks in Beyazıt, section A-A', prepared by author.

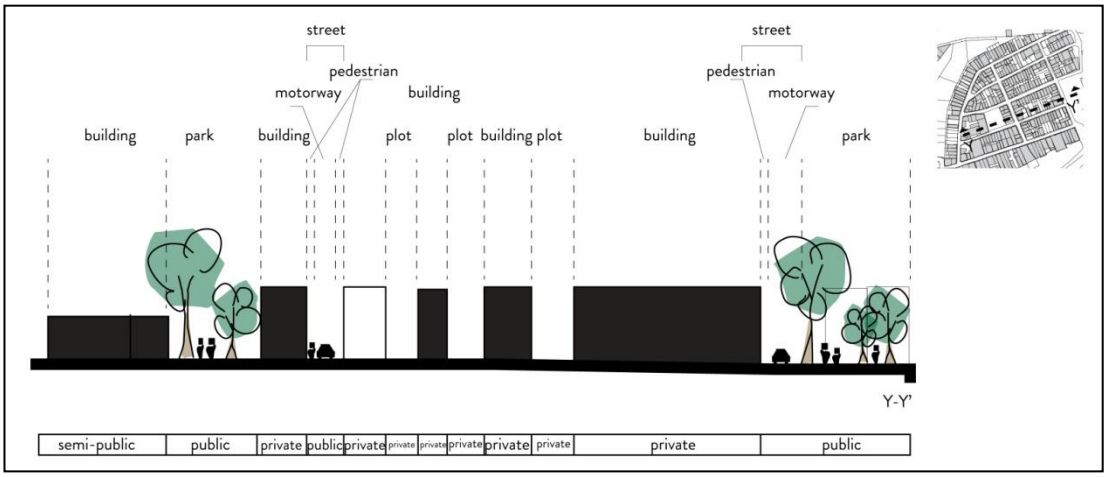


Figure 4.51 : Territorial analysis of urban blocks in Yenikapı, section Y-Y', prepared by author.

The aim of the analyses up to next examinations is to clarify the elements of urban blocks in the case study areas with regard to typological approach and property concept. In the next part, urban fabrics of the study areas are considered in regard to basic analysis methods of Conzen.

4.5 Morphological Regions of the Historical Peninsula; Beyazıt; Aksaray; Yenikapı

This part contains a series of analyses in order to create a discussion on the morphological persistence of the urban fabrics in the Historical Peninsula. Therefore, as emphasized in both theory and practice of this research, urban block and its elements are considered primarily. Based on analyses of urban form complexes, Conzenian approach of morphological regions is applied.

Streets, buildings and plots constitute town plan in which Conzen principally works. In town plan analyzes, changes of town plan/urban block components among some specific periods are identified. Conzen's analysis of town plan is mainly seen his study on Alnwick (1960). In this analysis, since only Pervititch maps, and current base map as the maps that showing urban block details can be achieved, the changes in plan units between different periods as Conzen practiced cannot provided in this study. Each town plan analysis is created in order to draw hierarchical morphological orders. Since the first order shows the old town as a whole and the second orders show main plan units, in our study scale, the third and fourth regions are emphasized as well as predetermined second orders. In addition to this, first and second degree conservation areas are indicated with morphological regions.

Constituting its basis as town plan analysis, which is also Conzen's most emphasized morphological research method, the Historical Peninsula of Istanbul as a whole constitutes the first order because of its persistence as a multi-level urban fabric beginning from Byzantium period till today inside of the city walls. Primarily walls of Theodosius are taken as the region boundary. In second phase, according to urban development directions, urban fabric configurations, major structural divisions, historical process and the regions within definite identities are considered. Consequently, 15 regions are founded inside of the first order whereas 4 other second order regions are identified outside of the city walls where filled coast areas are.

A base map in scale of 1/5000 is used for settling the first draft of the first and second regions. Subsequently, several maps of different periods are superposed, in the same scale in order to determine the technicality of the orders. The map showing significant urban development in Byzantium, Kauffer map of 1789, 1914 map that was drawn in scale of 1/25000 for showing urban blocks, the general street

network map of the years between 1925-1950, and Google earth maps of 2005 and 2014 years are used as base maps (See Figure 4.52).

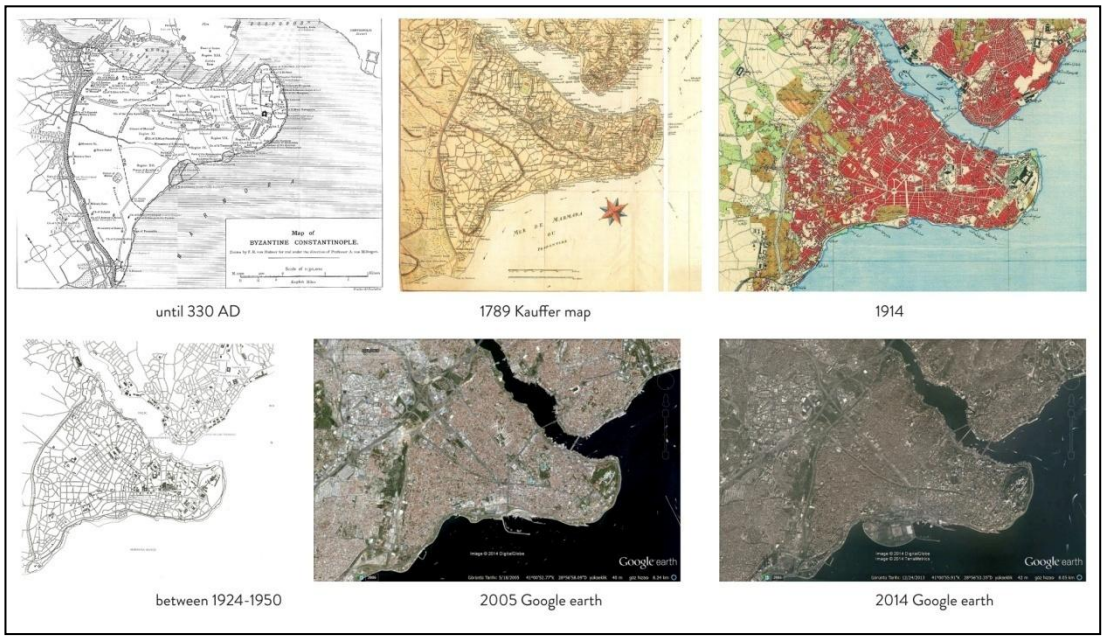


Figure 4.52 : Base maps that are used in determining of first and second order morphological regions of Historical Peninsula (Url-13; Kubilay, 2010, p.118-119, 206-207; Kuban, 1996; Google earth, 2005, 2014).

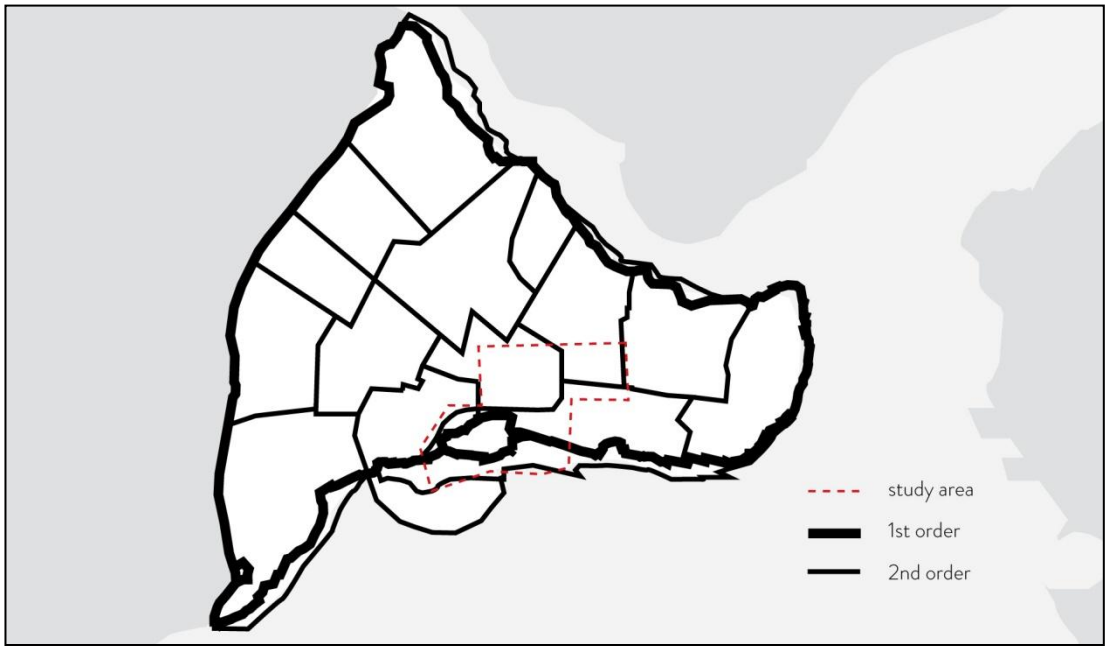


Figure 4.53 : Morphological regions of Historical Peninsula (first and second orders), prepared by author.

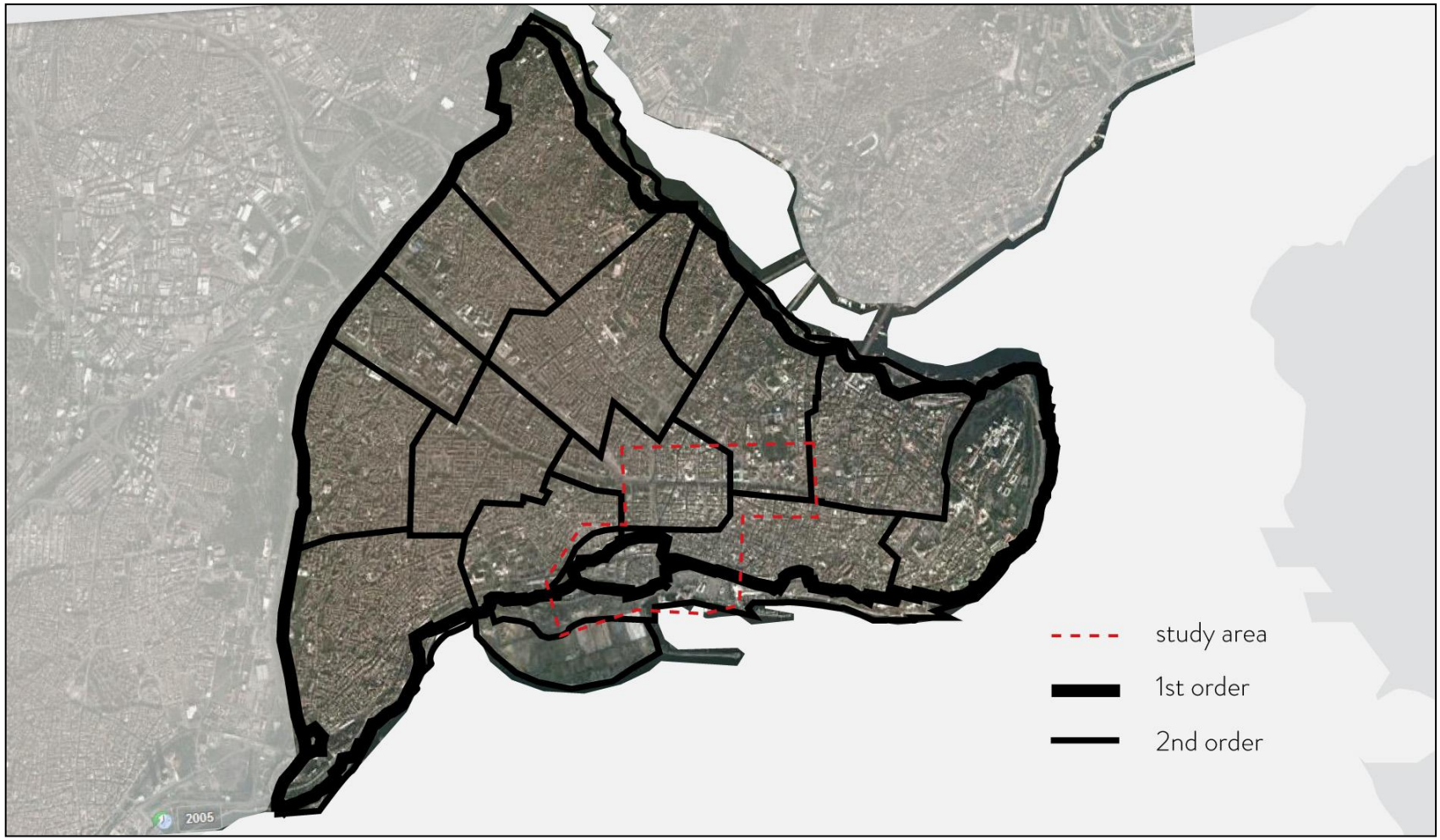


Figure 4.54 : Morphological regions of Historical Peninsula showing general urban fabrics with 2014 aerial photo (first and second orders), prepared by author.

Focused study areas in this study are determined as Beyazıt, Aksaray and Yenikapı regions as stated before. In this way, third and fourth orders of these areas' morphological regions are analyzed in a closer scale. The regions are determined based on three-fold urban components analyzes of Conzen:

- Town plan analysis
- Building fabric analysis
- Land and building utilization analysis

4.5.1 Town plan analyzes

Town plan constitutes from urban block components: street networks, building blocks and plot patterns. It indicates the analysis of areas delimited according to their ground plan. The persistence of town plan is the highest of the three complexes. Conzen claims: "This follows from its corporately sanctioned purpose from early times and the long sequence of broadly conformal investment of fixed capital, both private and public, reflecting as it does the patterns and commitments of a long succession of land ownership" (Conzen, 2004, p.71).

In town plan analysis, these three components are observed:

- Street system: movement axes surrounding building blocks and constitutes the outline of the towns
- Plot pattern: lands framed with streets as nests of buildings
- Building pattern: sheltering structures built on parcels

In this analysis, the insurance maps of Pervititch that were created in 1935 and last base map (2011) of the Historical Peninsula that is obtained from Fatih Municipality are superposed in order to observe urban block changes from the early Republican period to early years of 21st century.

Beyazıt

Beyazıt Square next to Ordu Street and other linked urban blocks are analyzed by emphasizing the changes in urban block components from 1935 to 2011 (see Figure 4.55). Buildings built before 1935 and buildings built between 1935 and 2011 are dissociated. Streets are classified based on building before 1935, between 1935 and 2011 and also physical changes between reference periods. Plot change cannot be analyzed in this sense because of data incompleteness. General land use of buildings according to 2011's data is also defined.

According to the map, it is seen that especially built environment around Beyazıt Square, at the north side of Ordu Street is constructed before 1935. On the other hand, south side of Ordu Street is mainly constructed after 1935. Moreover, the most significant change in urban pattern is seen at Ordu Street itself. Expansion of the street created new borders of neighbourhoods beside it.

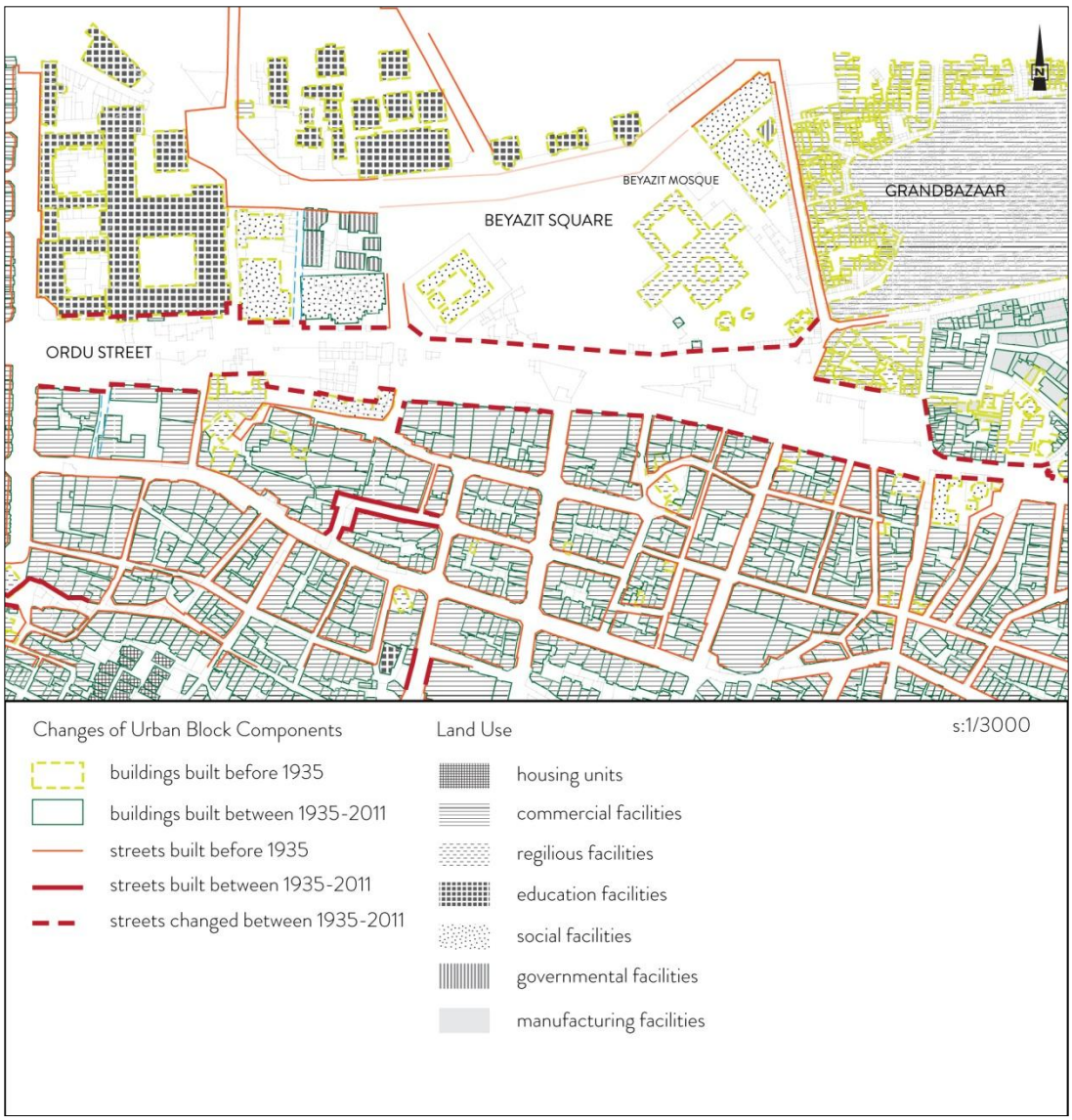


Figure 4.55 : Town plan analysis of Beyazıt.

As a result of this analysis, morphological regions in Beyazıt are defined (see Figure 4.56). Considering proposed orders for Historical Peninsula, second, third and fourth orders of morphological regions are determined. Since second orders represents urban quarter with main plan units, it only seen as passing through Ordu Street by dividing study area into two. Within third order regions, urban blocks are grouped according to historical persistence or change. Also, layouts of urban blocks and land uses are considered. Therefore, within the study area boundary, approximately 16

different regions of third order are founded. Inside of these regions, some specialized buildings or building blocks are referred to morphotypes which indicate fourth order. Building block size, grand physical changes or any significant differentiations among other urban blocks became determiner of fourth order as can be seen from the map. In this sense, faculties of Istanbul University are bounded based on its huge block size, as well as Şimkeşhane and Hasan Paşa inns are bounded because of significant change in blocks.

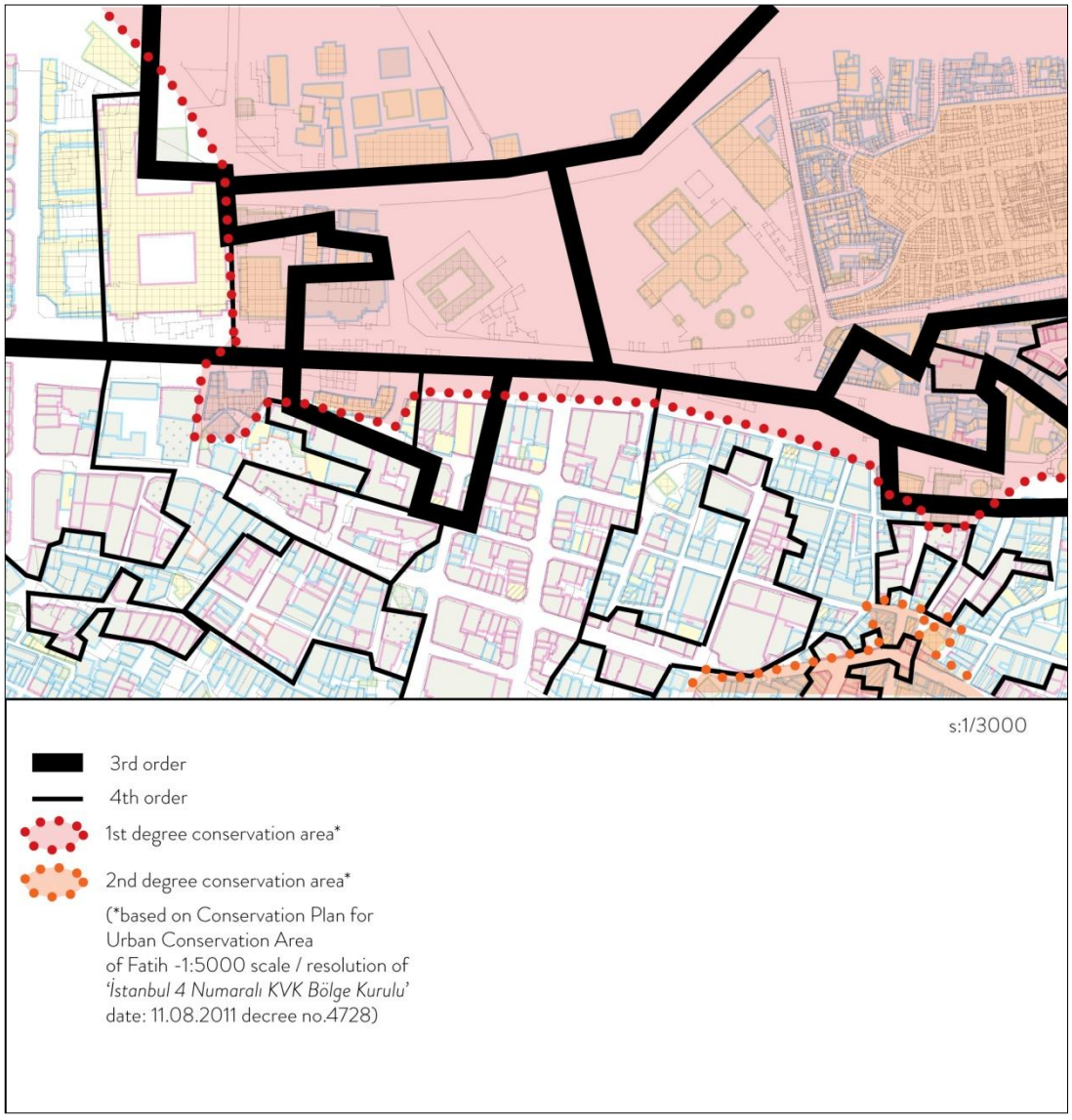


Figure 4.56 : Morphological regions based on town plan analysis of Beyazıt.

Aksaray

Town plan analysis of Aksaray (see Figure 4.57) also indicates urban block components which are built before 1935 and after 1935. According to the analysis, high density of the buildings built before 1935 are mostly gathered around Laleli Mosque and south part of the area. This region is the end of Ordu Street. From this

point, the spine of the peninsula goes into division as Vatan and Millet streets. The most remarkable change between 1935 and 2011 is founded as the junction and viaducts in the area. As well as the street is expanded, Atatürk Boulevard, which extends in north-south axes, is connected to other streets with the roads in different layers. Construction of Atatürk Boulevard affected urban blocks, especially at the north side of the peninsula, and it is concluded with many urban block destructions. Except for that, general layout of the urban pattern is constituted before 1935 as can be seen from the analysis.

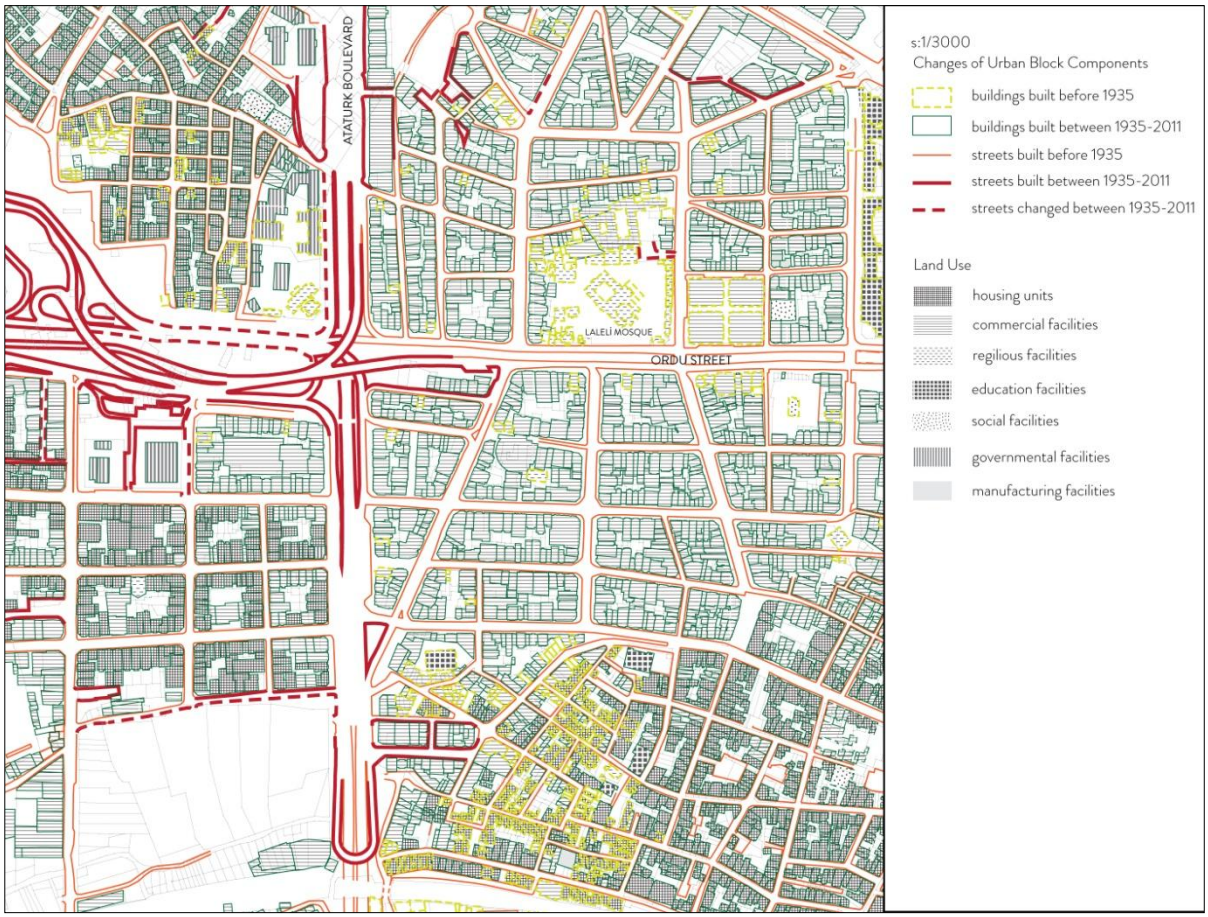


Figure 4.57 : Town plan analysis of Aksaray.

In morphological region analysis (see Figure 4.58), a second order line is seen as splitting Aksaray from Yenikapı region. Building blocks around Laleli Mosque, Valide Sultan Mosque at the west side of the map and the old neighbourhood at the north side are taken as third order regions as well as urban blocks in grid system or specific areas with a dominated land use. In the fourth order, old specific structures in third orders and great buildings are considered. Also, some archaeological structures such as Myralion church and its old forum area form Byzantium are taken as morphotypes.

Figure 4.58 : Morphological regions based on town plan analysis of Aksaray.

Yenikapı

In Yenikapı region, town plan analysis (see Figure 4.59) indicates that buildings built before 1935 are mostly founded at the south side of the map, in Yalı neighbourhood. As a quarter with housing units, street network is also built before 1935 as can be seen from the analysis. Conspicuously, the coast side and the road system on it are constructed between 1935 and 2011. The rest of the buildings and roads occur as the structures built after 1935.

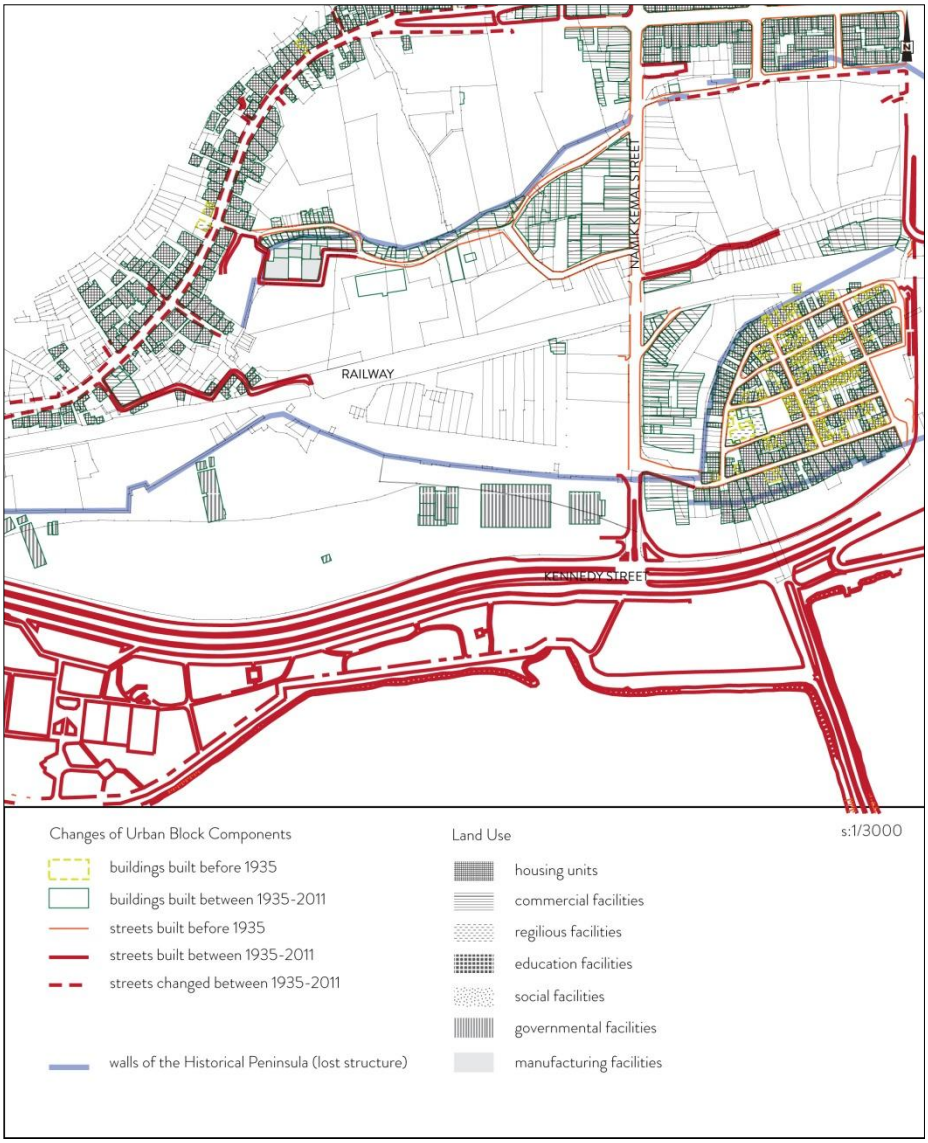


Figure 4.59 : Town plan analysis of Yenikapı.

In morphological analysis of Yenikapı's town plan, principally walls are taken as the borders of morphological regions. These also represent the first order of the Historical Peninsula by being the main boundaries of the old town, as stated before. Subsequently, urban fabric in Yalı neighbourhood, coast side, and empty areas (without settlements) constitute third order regions. Intersected conservation area on Yalı region is also founded in this third order region. Isolated buildings in empty regions are taken as fourth orders (see Figure 5.60).

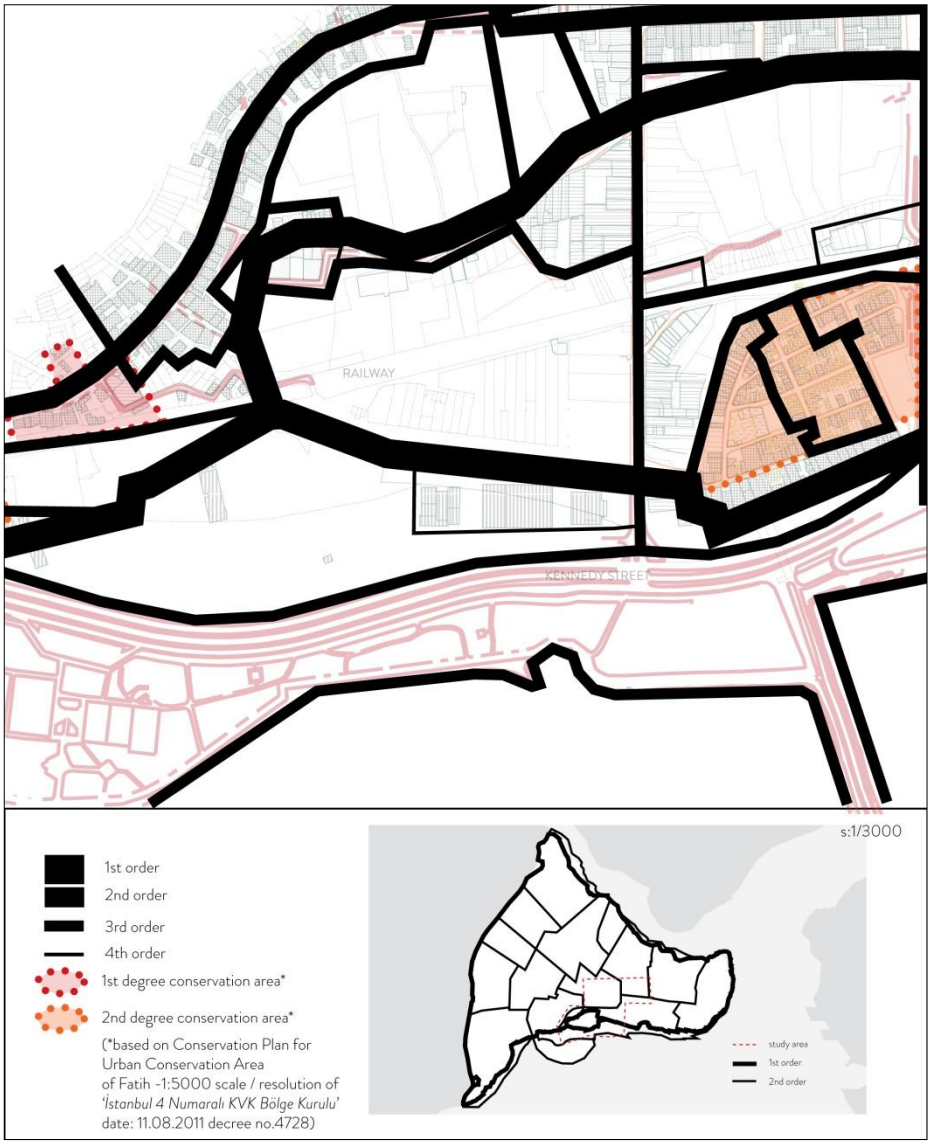


Figure 4.60 : Morphological regions based on town plan analysis of Yenikapı.

4.5.2 Building fabric

Building fabric is the 3-dimentional physical form of buildings. Building fabrics are also persistent to change; however, they can be modified according to changed conditions and needs. As being man-made units of urban form, their persistence depends on disasters like conflagrations and earthquakes, or change of ownership, function and development regulations.

Buildings are analyzed within two scopes in this part. Building materials and number of floors in each building are mapped. For building materials, reinforced concrete, masonry, wooden, wood siding concrete and other categories are displayed. Numbers of floors are grouped as 1, 2 to 4, 5 to 7 and 8 to 10 floors in the analyses.

In this way, general identities of building fabrics of the areas are shaped. In the sequel, morphological regions of building fabrics are generated.

Beyazıt

In Beyazıt, masonry buildings are seen around Beyazıt Square, including Beyazıt Mosque. Below of Ordu Street contains buildings with concrete materials except for some religious buildings and old inns with masonry material. At this region, buildings with floor number between 2 to 3 predominated in the area and number of floors is not more than 7 (see Figure 4.61).

Figure 4.61 : Building fabric analysis of Beyazıt.

As seen from the map of morphological regions (see Figure 4.62) third and fourth orders are determined considering the development of similar formations of building fabrics. In third orders, building materials become the effective factor; since they represent historical evolution of the urban pattern having the knowledge of masonry

buildings was generally from the period before 1935. Thus, regions are drawn according to the majority of masonry buildings at the north side of Ordu Street. Below the street, a high density of concrete buildings creates another region. The fourth orders are determined based on number of floors. It is observed that floor numbers begin to increase from 5 to 7 in the different parts of the area which especially seen in grid urban block patterns rather than organic ones.

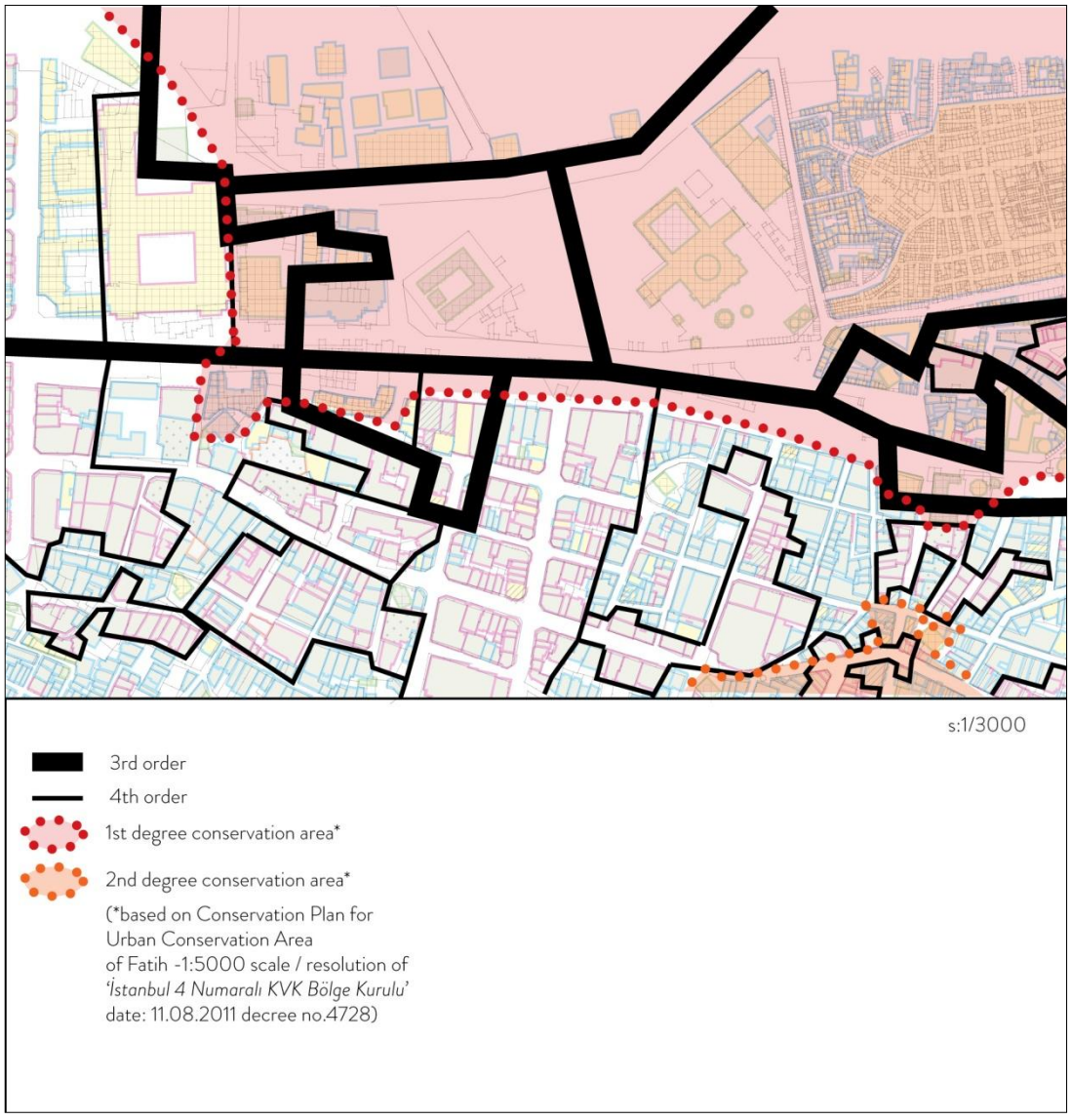


Figure 4.62 : Morphological regions based on building fabric analysis of Beyazıt.

Aksaray

A great majority of buildings in Aksaray are reinforced concrete. In specific parts, especially where religious buildings are, masonry buildings are located. In old urban block patterns, wooden buildings are seen rarely. Aksaray generally has buildings with number of floors 5 to7 in general. Particularly, in grid patterns 8 to 10 storey buildings are stood. As well as all this, the region contains most high rise buildings in

the Historical Peninsula. 1 to 4 storey buildings are grouped in at the south part of the area. Also, at the north side, around Valide Sultan Mosque, the lowest rise buildings are seen (see Figure 4.63).

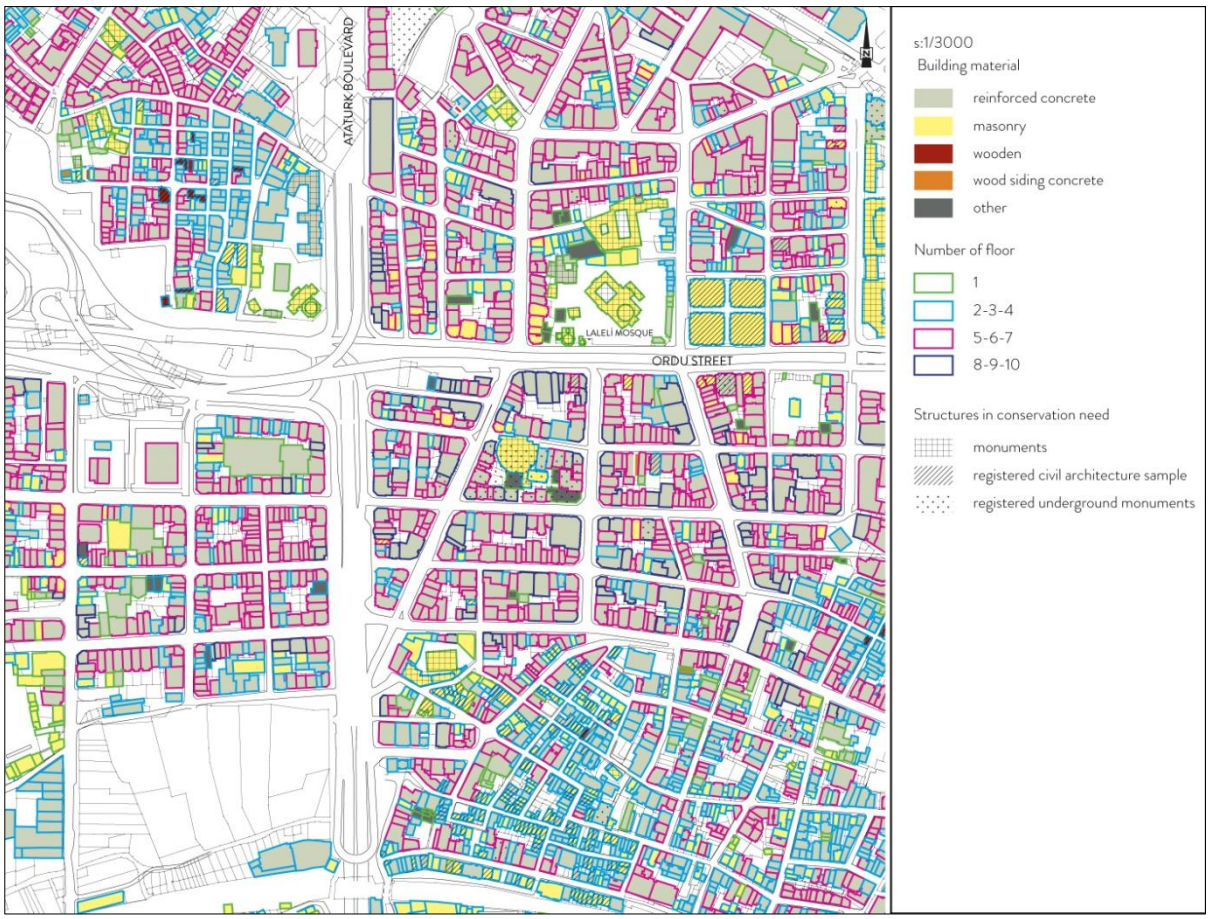


Figure 4.63 : Building fabric analysis of Aksaray.

Morphological regions of the area in this sense indicate differentiation of building materials in the third order. The distribution of number of floors is heterogeneous in general, however, in some intersection points of the streets, building blocks with same story height are taken as fourth order regions (see Figure 4.64).

Figure 4.64 : Morphological regions based on building fabric analysis of Aksaray.

Yenikapı

Building fabric analysis in Yenikapı region can be practiced in Yalı neighbourhood and surrounded buildings in empty plots at the north side of the railway. It is seen that the old neighbourhood of Yalı is abundant in masonry structures. In addition, wooden buildings are located in this part, as well as reinforces concrete buildings are built at the plots on the coastline side. Although generally concrete buildings are observed in rest of the area, some building groups are founded with masonry material in particular areas. Building blocks in Yalı neighbourhood are also differentiated with their smaller sizes from other buildings in the study area. When we look at the number of floors, it is seen that 1 to 4 storey buildings dominate the area (see 4.65).

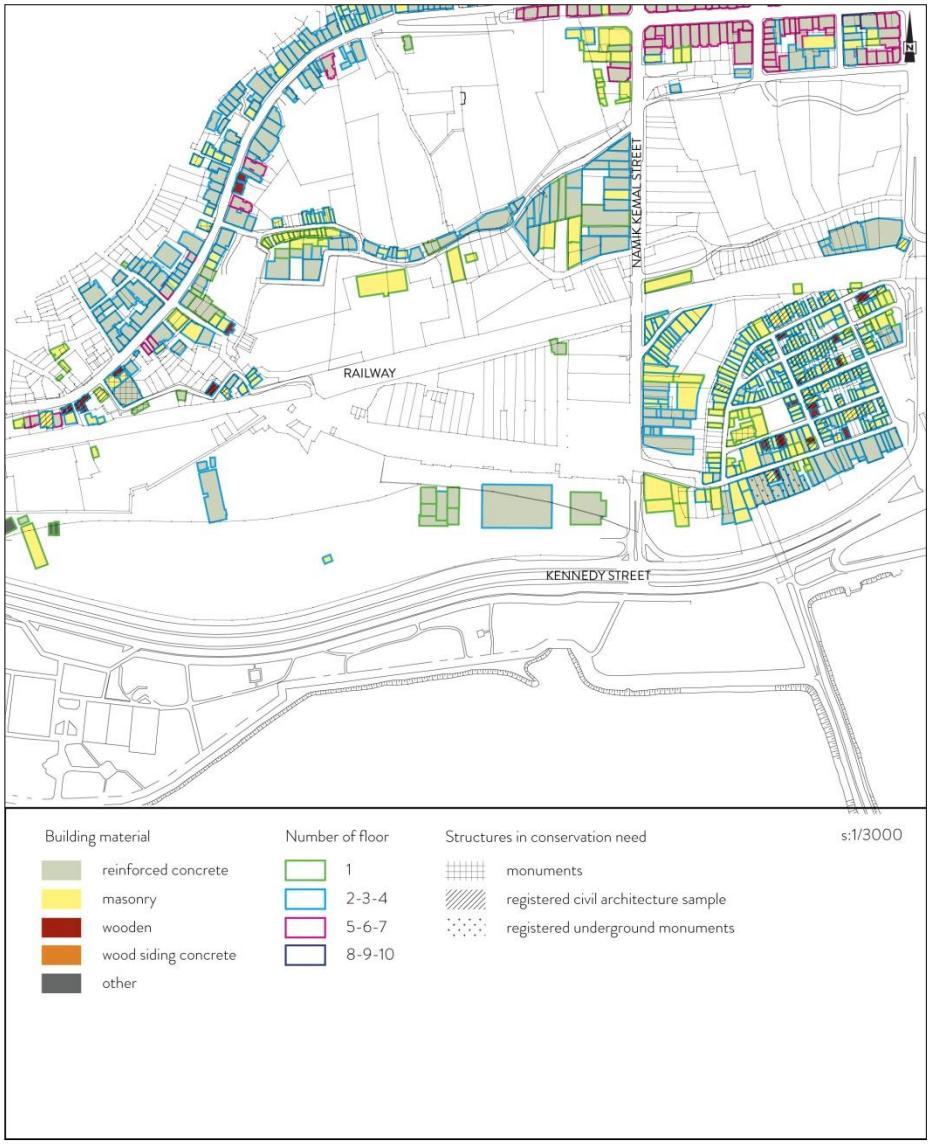


Figure 4.65 : Building fabric analysis of Yenikapı.

Depending upon building fabric analysis, third order regions are defined based on building materials. The empty areas with a few buildings, urban quarter in Yalı neighbourhood and specified masonry building groups constitute third order regions in this sense. A group of 1 storey buildings in Yalı region and some buildings with higher stories than 4 are taken as different morphotypes within the fourth order (see Figure 4.66).

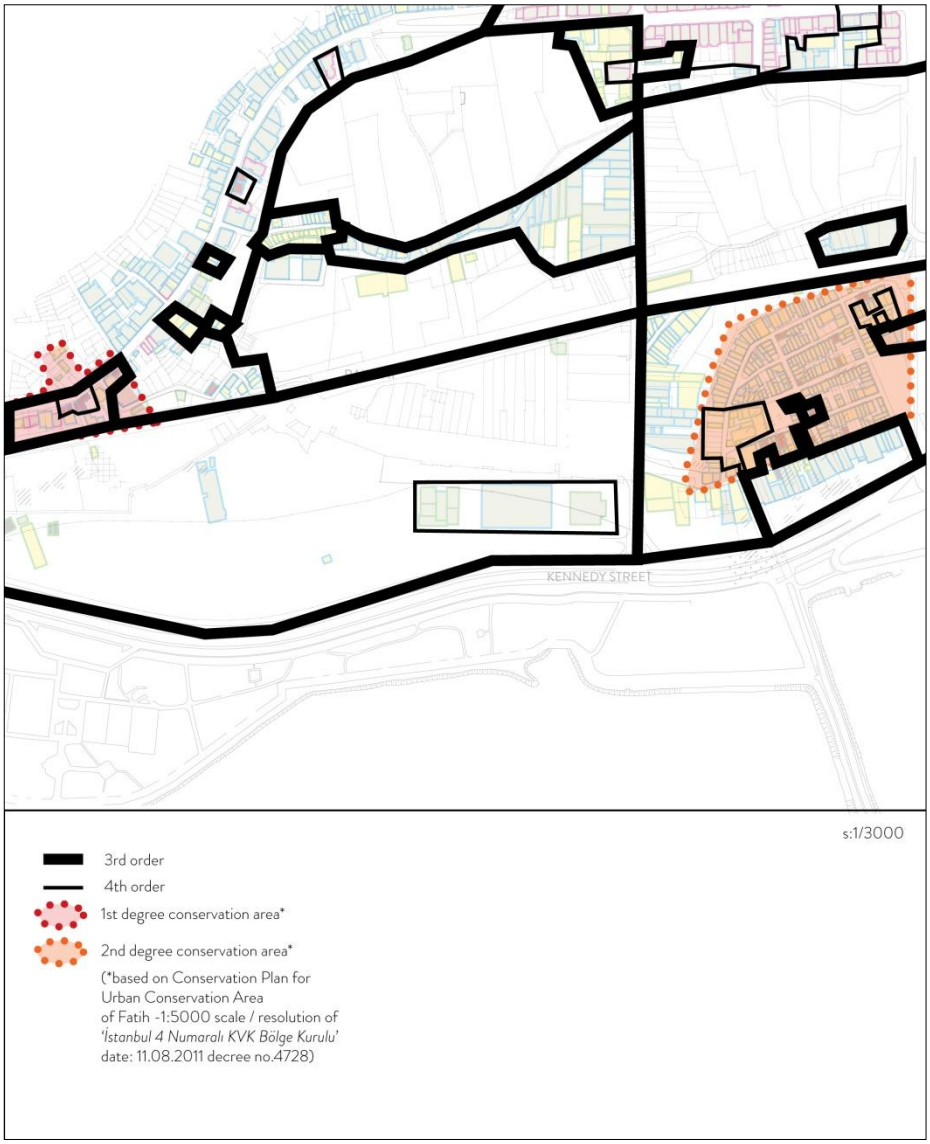


Figure 4.66 : Morphological regions based on building fabric analysis of Yenikapı.

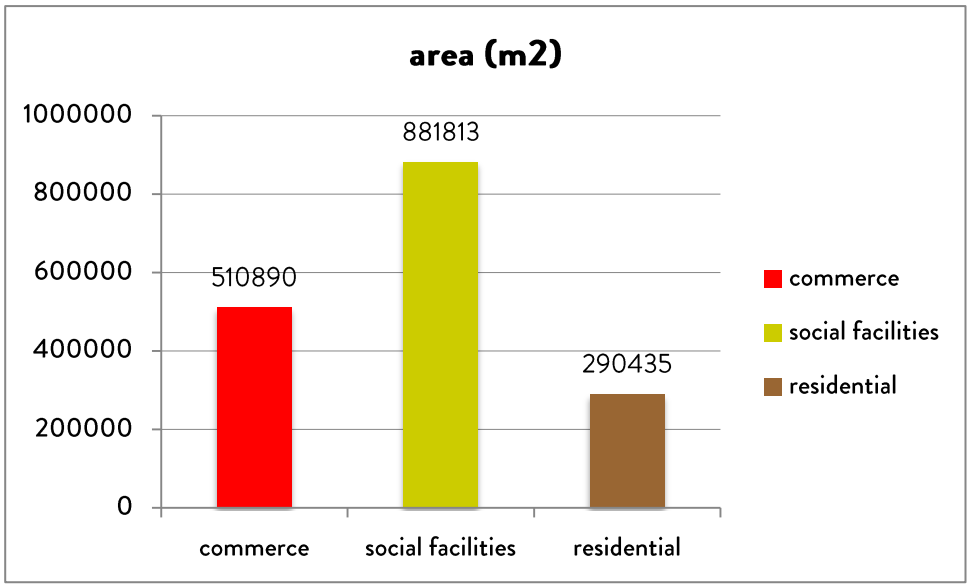
4.5.3 Land and building utilization

Land use analysis examining economical and social structure of the areas. Land and building utilization is most open complex in an urban development. Based on socioeconomic factors or planning decisions, utilization of buildings or land can transform. Functions of structures are shaped according to other land use decisions. Moreover, as economical life of buildings expires, buildings adapt to new function more readily.

In this part, land use analyzes of study areas are mapped. Utilization of buildings is shown individually while land utilization of some areas is shown regionally. Based on the study areas' characteristics, categories of utilizations are mainly concentrated on commerce, accommodation, residential, administrative, educational, cultural and religious facilities and open public areas such as parks and car parks. Morphological

regions that are created from land and building utilization maps are presented with third orders predicating common utilizations on.

Table 4.5 : General land utilization of the study areas (m2).



Beyazıt

As it is seen from the map of land and building utilization of Beyazıt (see Figure 4.67), educational region, where Istanbul University is located, constitutes one region at the north side of the map. Below Ordu Street, commerce buildings group as a region as well as Grandbazaar region with inns with commercial activities. Around Beyazıt Square, buildings with cultural activities, some administrative utilizations and religious regions are enclosed in third order. Distinctive utilizations of buildings within homogeneous regions, which are in this study area mostly religious uses, are also shown (see Figure 4.68).

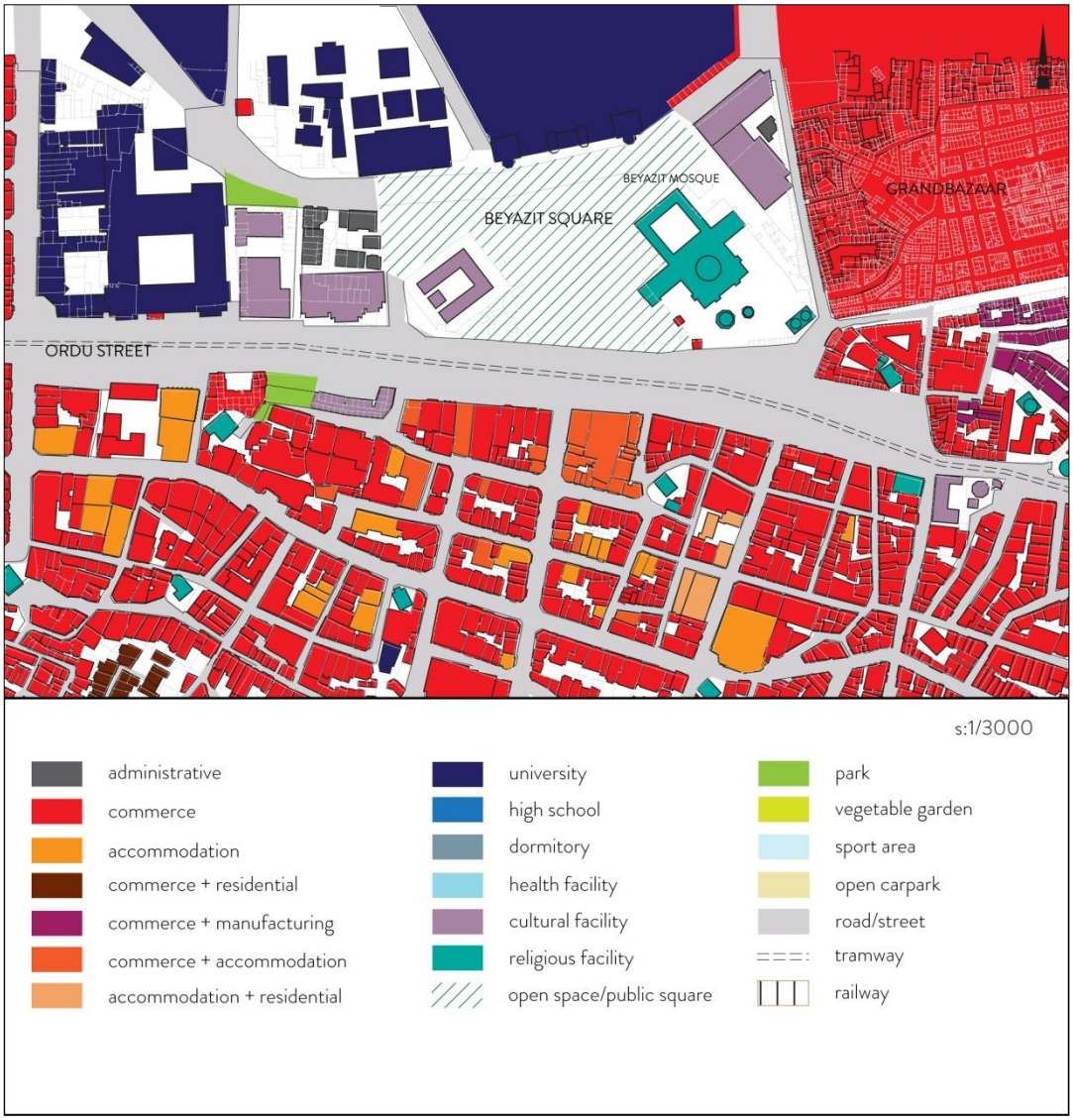


Figure 4.67 : Land and building utilization analysis of Beyazıt.

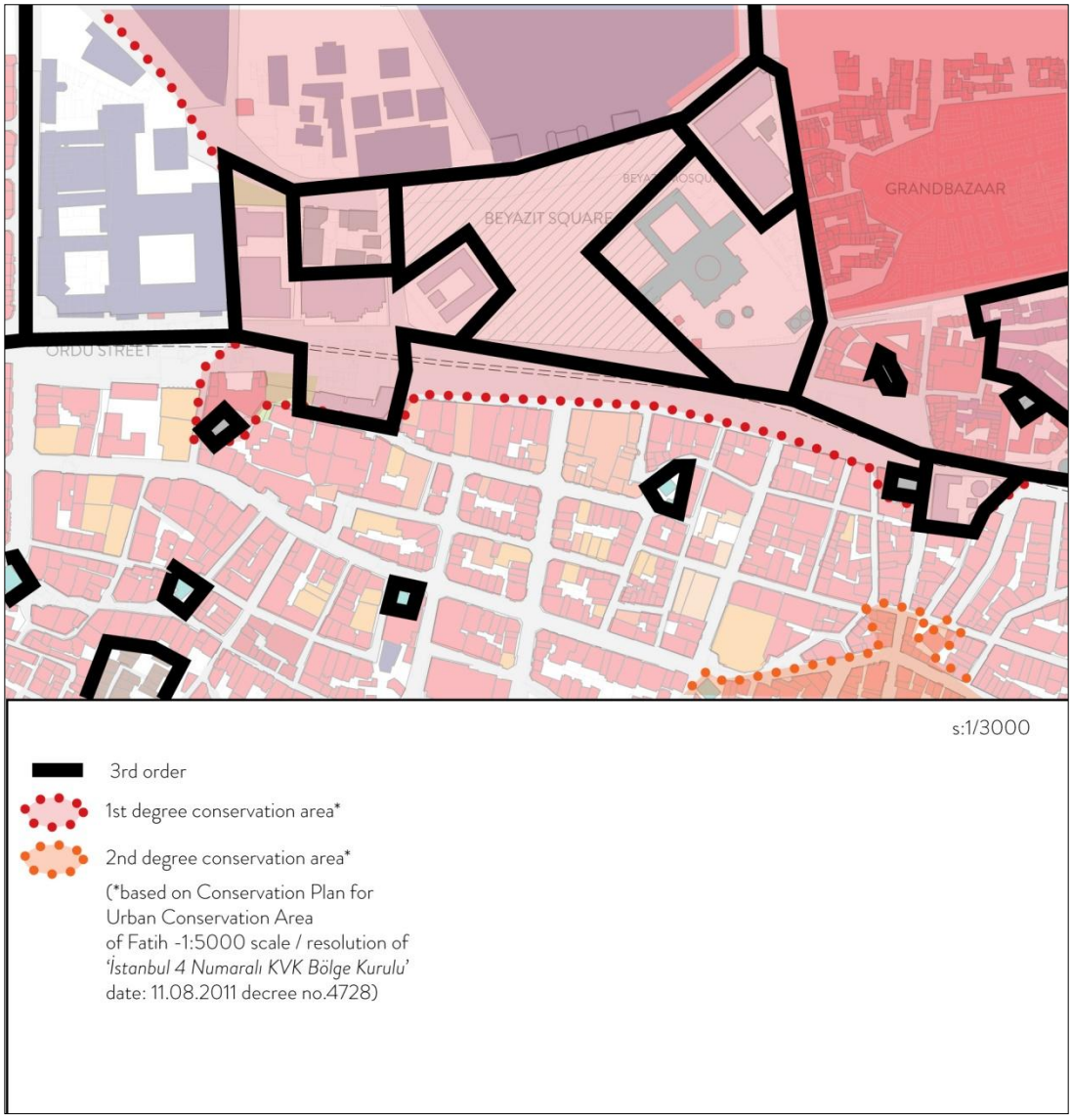


Figure 4.68 : Morphological regions based on land and building utilization analysis of Beyazıt.

Aksaray

In Aksaray, general land and building utilization seem to vary in two categories; commercial and residential (See Figure 4.69). Commercial activities are dominated the region which is called as Laleli. As can be seen from the map, urban block patterns around Laleli Mosque and the parallel region below Ordu Street is one of the cores of business of the Historical Peninsula. Types of commerce activities in this area are mostly upon clothing and accommodation. The south part of the area and west of Atatürk Boulevard contain residential uses with commerce activities. Therefore, morphological regions are mainly decided according to density of commercial uses and residential uses with commercial activities. It is founded that, east side of Atatürk Boulevard is more homogeneous in terms of land use activities. On the other hand, as approaching Yenikapı, commerce, residential, administrative

and religious utilizations and park and car park areas constitute a more mixed use structure in the area (see Figure 4.70).

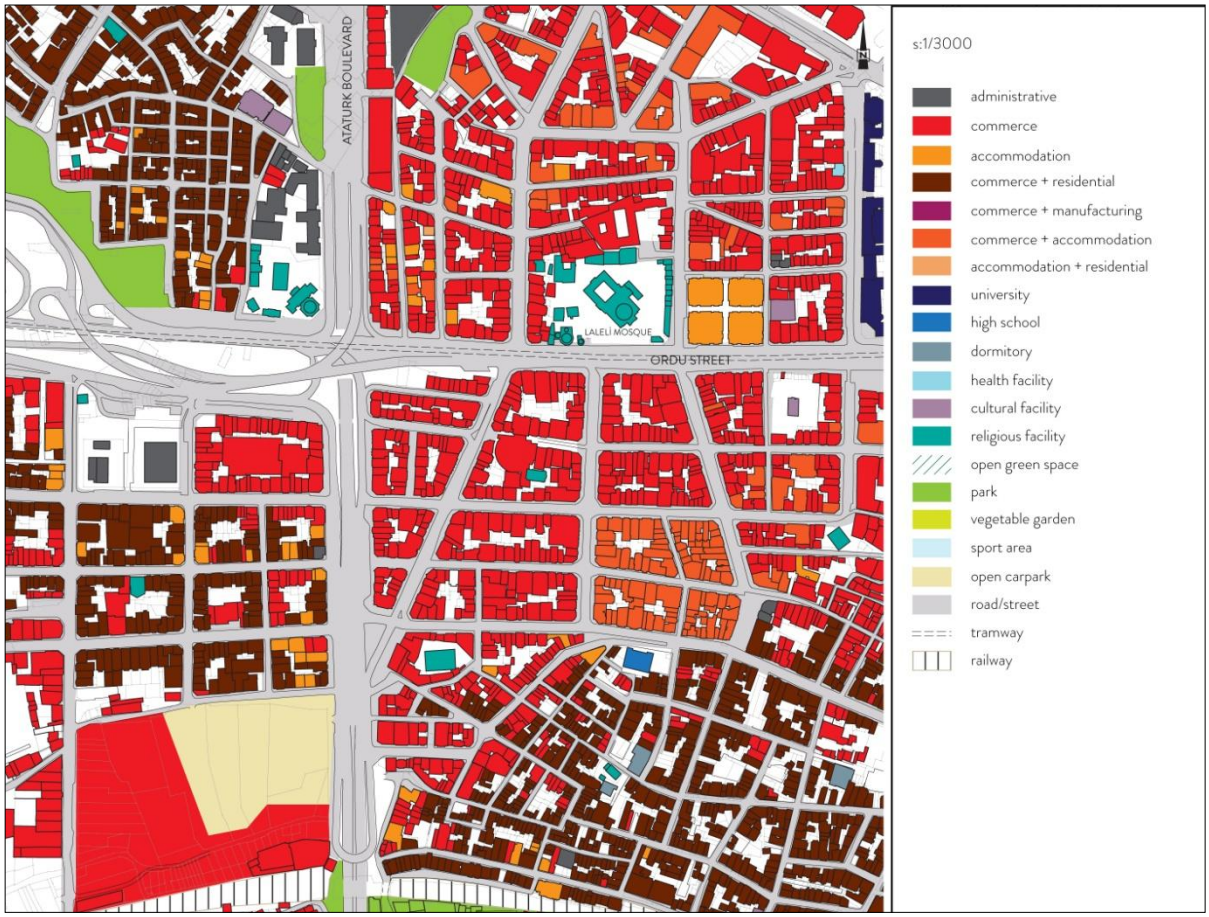


Figure 4.69 : Land and building utilization analysis of Aksaray.

Figure 4.70 : Morphological regions based on land and building utilization analysis of Aksaray.

Yenikapı

In Yenikapı, since there are many open-air spaces, land utilizations are represented regionally where building blocks are taken as structurally. As can be seen from the map, the neighbourhood at Yalı region contains housing units with some commercial activities. Also a group of building blocks indicates religious facility of the region. At the east side of the area commerce utilizations and a huge area of car park are observed. At the north of the study area, a vegetable garden is located which is connected to residential area from the west side. The railway line divides the area in two parts at the direction of north and south. In the south part of the area, as well as some commercial utilizations and vegetable gardens, the large part of it belongs to ISKI (directorate of waters of Istanbul) including water treatment station at the end of Namık Kemal Street. The location of the walls of the Historical Peninsula has become the separator of this administrative part from vegetable areas as can be observed from the map. At the coast side, connecting the seaport, parks and some sport areas are seen in parallel to the main road of Kennedy Street (see Figure 4.71).

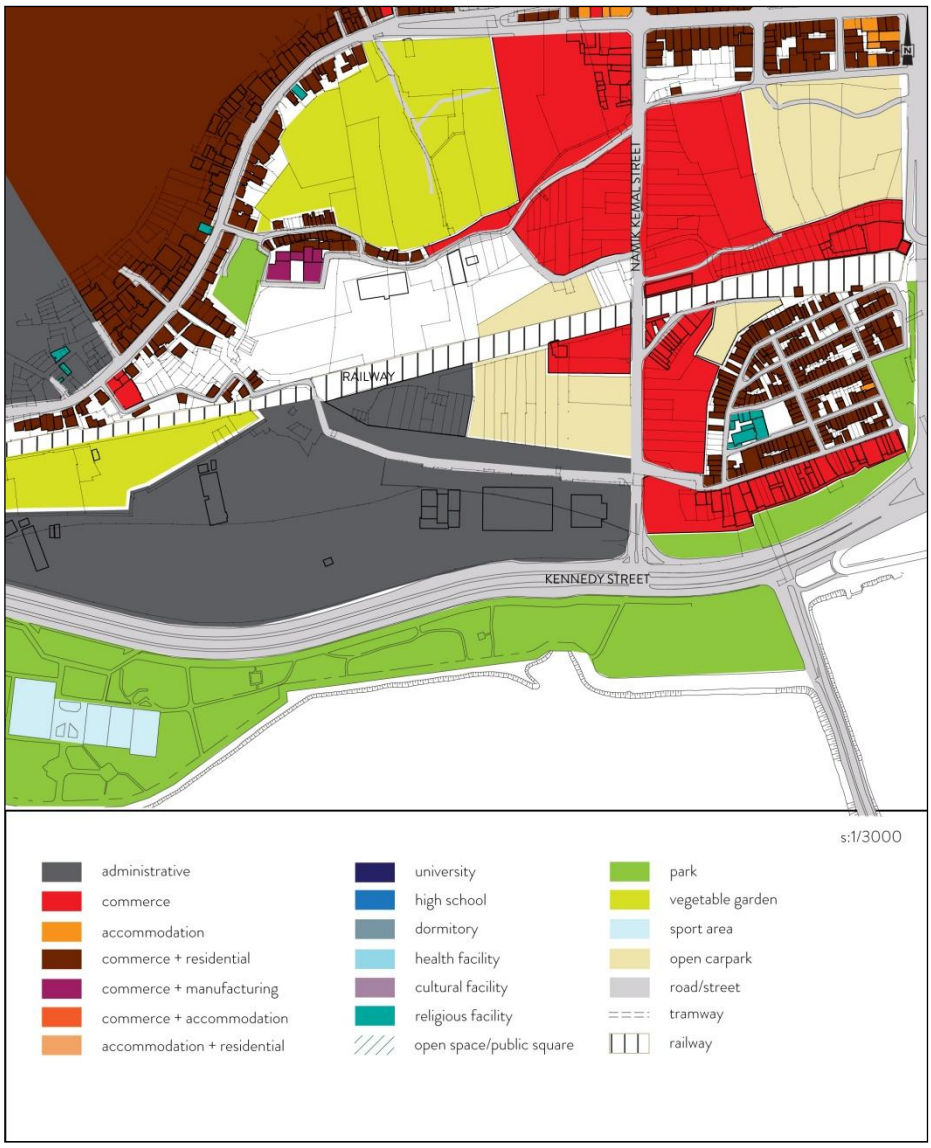


Figure 4.71 : Land and building utilization analysis of Yenikapı.

According to land and building utilization analysis of Yenikapı, morphological regions are defined as third order. As well as lands and buildings, the railway line and Kennedy Street are considered as different regions in this study area due to their overall influence to the old town (see Figure 4.72).

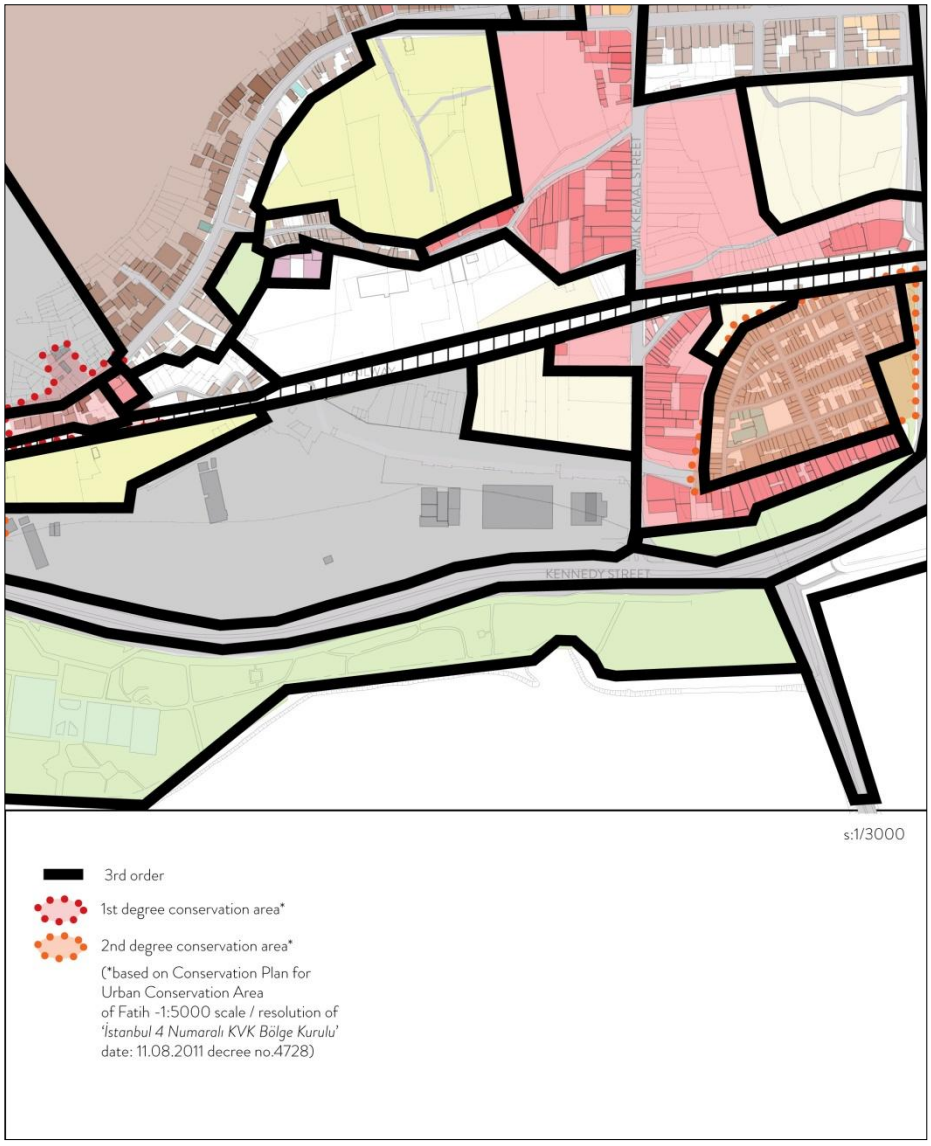


Figure 4.72 : Morphological regions based on land and building utilization analysis of Yenikapı.

The urban form complexes in Conzenian tradition are analyzed and morphological regionalization is illustrated. Further, as the base of this study, land ownership patterns are considered as another complex to understand with morphological regions (see Figure 4.73, Figure 4.74, Figure 4.75).

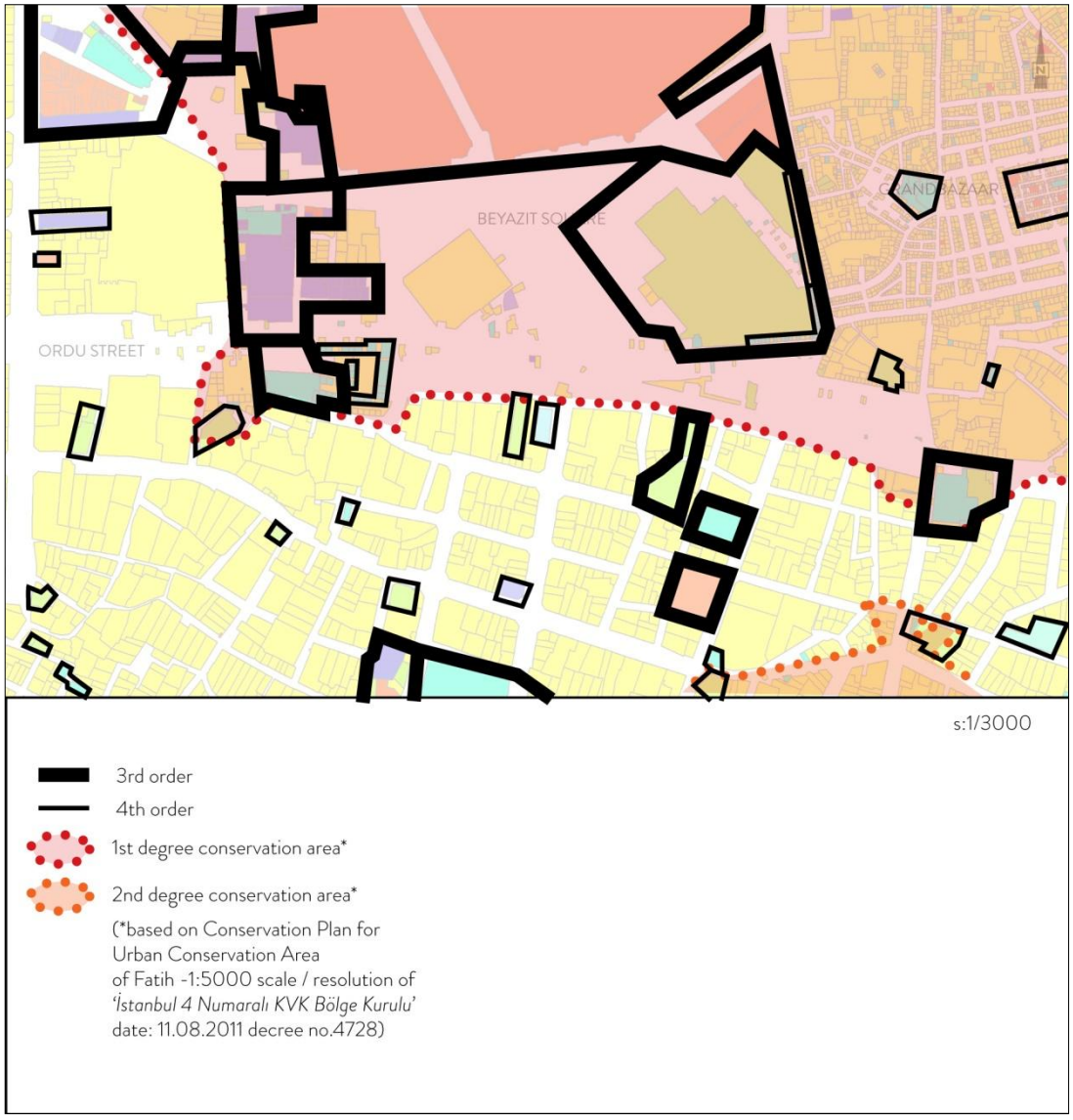


Figure 4.73 : Morphological Regions based on Land Ownership of Beyazıt.

Figure 4.74 : Morphological Regions based on Land Ownership of Aksaray.

Figure 4.75 : Morphological Regions based on Land Ownership of Yenikapı.

These analyses and proposed morphological regions are shown in the following table (Table 4.6) and they also can be seen in detail in the part of Appendices A.

4.6 Chapter Evaluation

Urban morphology represents the studies of the built form by exploring its elements and development process. As an urban morphological study, in this research, urban development of the Historical Peninsula is studied by elaborating urban block configurations and planning process of Beyazıt, Aksaray and Yenikapı regions. Beyazıt Square, its surroundings and Ordu Street, its junction with Atatürk Boulevard and Yenikapı area with vegetable areas turning into major transportation node of the city, are the focused study areas.

The major transformations in urban fabrics are discussed based on planning process and government's regulations. As can be seen, in 19th century, the town began to get shaped through street widening and regularizing old urban blocks in grid layouts. Urban developments in consequence of socio-politic and socio-economic changes in Europe took effect on late Ottoman and early Turkey Republic periods. With the modernization process of new republic, government requisitioned European architects and engineers to plan cities. In this sense, especially with Prost plan, transportation networks and green area systems constituted the new frame of Istanbul. Even the plan decision which could not be implemented due to financial problems was executed in the 1950s by the republic. In that period, constructions of Ordu, Vatan, Miller Streets and Atatürk Boulevard changed both existing urban fabrics and main development direction of the city of Istanbul. After the 1970s and the 1980s, as Istanbul became the most populated city in which the main economical activities have seen, with the force of economical movements based on political enforcements, the form of urban fabrics has to be changed through large scaled projects. These analyses bring us morphological change process to understand urban form of selected study areas.

In the second phase, the main concern is the urban blocks with their basic components. Areas of plot patterns, street widths' and relations between urban block components in the study areas are explored. In terms of property relations, land ownership patterns and territorial explorations in focused areas are analyzed. The influence of property relations are observed through historical examination and urban block analyses based on property concept.

Subsequently, Conzen's morphological approaches are used for further research. Within historical periods, town plan, building fabrics and land and building utilization of the study areas are analyzed and based on these analyzes morphological regions are identified in third and fourth orders. The whole of the peninsula is recognized for

identifying the first and second orders. Besides, in the focused study areas of Beyazıt, Aksaray and Yenikapı, morphological regions are defined based on land ownership patterns. These regions are superposed with conservation areas in the maps.

5. CONCLUSION

The thesis examines the Conzenian tradition of urban morphology in regard to urban block components as the main units of morphological analyzes. Property relations in consequence of production relations in the urban space are discoursed as well as many other factors that are effective in the process of evaluation of urban fabrics. Urban morphology and the roots of urban planning discipline are based on property for a sustainable urban design practice. As Whitehand (2005) states “Urban morphology is, after all, the study of urban form, and an important part of urban design is the creation of urban form” (p.1). In this context, the relationship between property relations and urban morphology is discussed by elaborating urban block studies in the case study areas of Beyazıt, Aksaray and Yenikapı in the Historical Peninsula and through the use of morphological analyses of M. R. G. Conzen.

Morphological concepts and studies of Conzen from British School focus on town plan, building fabric and land and building utilization in order to understand the towns within their historical evolution. His main concerns are urban block plans representing buildings in their plots and connections with street network in town plans. As explained in chapter 2, each morphological approach of different schools also works on urban block consisting of street, plot and building. Through Conzen’s emphasis on plot level (seen in burgage cycle studies), morphological changes become possible to be observed from the smallest element of the townscapes.

The question of the connection between property relations and the morphological transformations based on form, time and resolution of different components is revealed through the research of urban/form changes according to definite planning approaches and political grounds in the study areas of Beyazıt, Aksaray and Yenikapı within historical process.

Through this research, the relationship between urban morphology and property relations are recognized as constant. It is discovered that, property relations are the main factor of the transformation in urban form. Developments or changes in urban morphology of an urban fabric occur as a result of the connection of owners of the lands. When the government, investors or disasters become the reason of the change on the urban form, morphological transformation of the urban fabric may

cause the loss of the character of the area, as can be seen from the case study of the thesis.

Property relations as being legal tools at the background of morphological change/development are understood as such in the development of the whole cities. In chapter 3, property relations are explained within conceptual and spatial aspects as being legal reflections of the production of urban space. In this study, these relations are observed through recognition of private, public or semi-public territorial modes in the urban block scale with elaborating its components; streets, buildings and plots. Also, the outcomes and influence on attending urban dynamics on urban form based on interactions between private and public properties at the periods of definite planning politics are seen.

The Historical Peninsula's organic urban fabric, which constituted through Islamic politics with privacy concept and perceptivity of no private property, began to change through grid urban block systems which were practiced in the modernization period of the 19th century. The configurational changes occurred with the destructions of great fires, legal interferences and regulations by providing property relations.

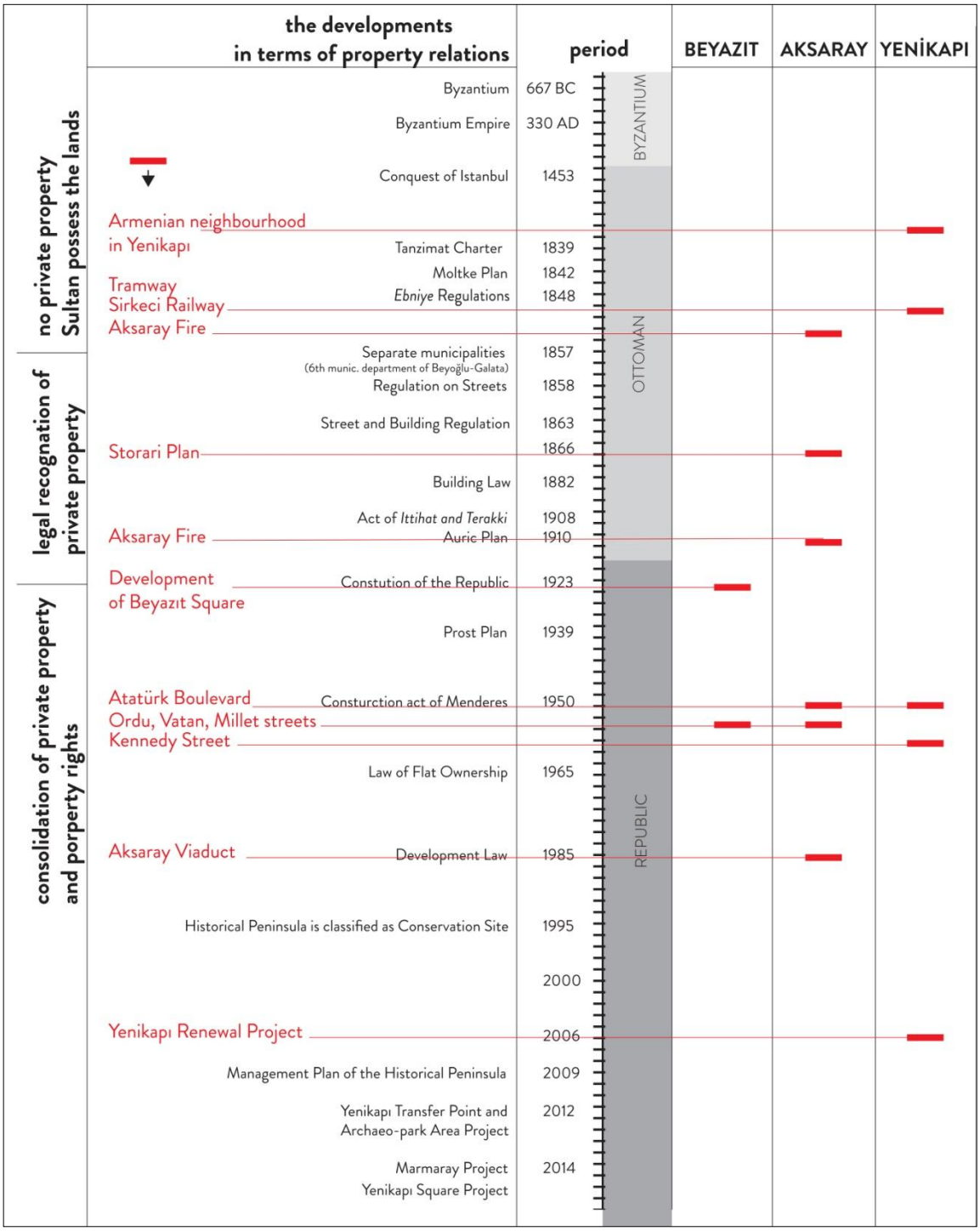
After the 1950s, construction of large street systems caused major destructions in old urban fabrics, yet planning policies of the government formed according to the changing economical system and lifestyles. In those years, numerous characteristic units of the Historical Peninsula were demolished and expropriations were executed in the urban blocks which were complication for widening and opening new roads, with the construction codes.

With the rising population of Istanbul, destructions in the Historical Peninsula are tried to be prevented by conservation plans. However, conservation and restoration studies fell short. Besides, the form and character of the Peninsula was damaged due to the insufficient conservation and restoration practices of local administrations, renewal projects and coast filling projects. Herein choosing the focused case areas as Aksaray, Beyazıt and especially Yenikapı can be explained accordingly.

During the Ottoman period, in order to erase the trace of Byzantium period, large forum areas with its churches which connected to Mese was filled with buildings with courtyards surrounded by narrow streets with dead ends (cul-de-sacs). The land is given to the public as the property of Sultan. Therefore, forum Theodosius changed into Beyazıt Square, whereas forum Bovis and Amastrian turned to settlement regions. At the last years of Ottoman and early Republican period, streets were widened and cul-de-sacs are removed from the street networks with the new

regulations and plans of modernization movements. Private property ownership of regularized urban blocks coming along modernization process, were amalgamated, allocated or expropriated for executing new plan decisions of modern Istanbul. Primarily, in Aksaray, the morphological changes of urban fabric based on regulations after fires can be seen clearly as explained in chapter 4. As indicated, with the 1950s, large road networks and boulevard constructions in the Historical Peninsula began to change fabric of the town. In 1970s, viaduct construction in Aksaray, coast line filling in the sea border of the Historical Peninsula and Yenikapı region are also transformed the character of the historical town. In the last decade, the Historical Peninsula has been undertaken as the junction of transportation networks of the whole metropolis of Istanbul. Yenikapı Transportation Project and Yenikapı Square Project are the greatest interference of the Historical Peninsula. In contrast with the several conserved old towns, the Historical Peninsula has been experiencing a disidentification process with turning the middle of the peninsula; Yenikapı to the transfer centre of transportation networks as well as the filled square area which have changed the main form of the Historical Peninsula conspicuously. Table 5.1 represents a synthesis of the process of morphological evolution and political and legal reasons behind it within historical order:

Table 5.1 : Timeline describing significant tranformations in morphological evolution, based on legal processes: in the study areas of Beyazıt, Aksaray, and Yenikapı.



*Red lines indicate the direct influences/breaking points of the enforcements to the study areas.

As well as urban fabric examinations, Conzen's examinations regarding the changes in historical towns within historical periods are taken as the basis, on behalf of morphological research of the Historical Peninsula. The homogeneous plan units which are generated in these changes and historical process set a framework for the concept of morphological regions of Conzen. With this hierarchical system of regionalization, definite homogenous urban fabrics within other homogeneous complements are identified based on town plans. Although Conzen gives the main emphasis on town plan in his researches, building fabric and land and building utilizations also provide various distinct regions that can be considered. Additionally, ownership patterns as the basis of property relations in the transformation of urban form are examined and morphological regions are also identified according to this data. Therefore, as well as town plan analyzes, land ownership patterns of the case areas in this research and maps of morphological regions which are generated from them become the major findings.

As specified before, in this method which generally involves four hierarchical morphological regions, the old town as a whole is described as first order, town quarters represent second quarters whereas street, neighbourhood or precinctual units are third and smallest building groups of a dominant period or morphotypes are fourth. In this respect, the number of hierarchical levels can be discussed according to the study area. Especially in historical towns, number of orders can be increase or decrease considering structural changes or mergence in the towns.

In the case of the Historical Peninsula, the main walls of the town are taken as first order regions; because an integrated urban system and urban life within the walls are seen in each historical periods of the town. The walled city has become the living area with management, residential, commercial and religious activities of the major civilizations of the word. Although Byzantium walls which were around today's Topkapı Palace and Constantine walls represent older borders of the Historical Peninsula, due to it persistence, the walls of Theodosia is accepted as main boundary of the town by providing unity.

When we come to second orders, as stated in chapter 4, these orders are determined considering urban fabric which is constituted in the same periods or land use activities and urban functions. These are also identified as plan units demonstrating the basic parts of townscape plans. It is possible to create more distinct borders for regions with a more detailed work in this scale.

The third order regions which are nested in second orders are defined in the case studies of Beyazıt, Aksaray and Yenikapı regions. Street units based on same morphological features or same historical persistence is taken as third orders. In this point, morphological regions are a matter of identification in various ways based on town plan, building fabric, land and building utilization and land ownership analyzes. Morphological integration and breaking points of these regions can be observed through building fabric and land use analysis, though the analysis of town plan remains principal. Mainly, the method and concept of morphological regionalization can be useful in planning, urban design and conservation practices in a specific character area. The benefits of all these regional analyzes in this study can be summarized in three sections as following:

1. Providing mappings, structuring or quantifying of different historical units within a whole historical town in order to use in different purposes of planning and designing practices. In this way, significance and value of old towns can be recognized in conservation plans.

2. These morphological regions can be discussed in architectural and planning practices for seizing upon the distinct plan units and buildings. Thus, especially in conservation plans, these practices provide integration between old cores of the historical cities and other structural forms based on most appropriate units.

3. Particularly in the historical towns which are imperiled to change by redevelopment activities, character and order of these old towns becomes essential subject. Besides historical structures, this method can be used in order to define the place of other building groups in a historical town. This is to say, the planners or urban designers can recognize urban fabrics, urban blocks or its components and vistas in need of conservation and socio-cultural heritage areas which are about to interfered with redevelopment or infrastructural maintenance projects by comprehending morphological regions. In addition to this, several other historical units beyond the historical town can be recognized as a part of long range conservation plans through determining morphological regions (Conzen, 2004).

In the cases of Aksaray, Beyazıt and Yenikapı, even though they are all the parts of the whole old town, counts of identified regions (showing same or different features) are tabulated as following:

Table 5.2 : Number of morphological regions identified in cases of Beyazıt, Aksaray and Yenikapı.

Study Areas		Morphological regions of town plan analyzes	Morpho-logical regions of building fabric analyzes	Morpho-logical regions of land and building utilization analyzes	Morphological regions of land ownership pattern
Beyazıt *study area:* ***30 ha***	**number of morpho-logical regions**	second order: 2 - partly third order: 16 regions fourth order: 9 regions	third order: 8 regions fourth order: 18 regions	third order: 19 regions	third order: 14 regions fourth order: 23 regions
	rate of third order region in 1 ha	**0,53**	**0,26**	**0,63**	**0,46**
Aksaray *study area:* ***75 ha***	**number of morpho-logical regions**	second order: 3 - partly third order: 20 regions fourth order: 19 regions	third order: 13 regions fourth order: 40 regions	third order: 40 regions	third order: 29 regions fourth order: 44 regions
	rate of third order region in 1 ha	**0,26**	**0,17**	**0,53**	**0,38**
Yenikapı *study area:* ***50 ha***	**number of morpho-logical regions**	second order: 2 - partly third order: 17 regions fourth order: 4 regions	third order: 15 regions fourth order: 8 regions	third order: 23 regions	third order: 14 regions fourth order: 13 regions
	rate of third order region in 1 ha	**0,34**	**0,30**	**0,46**	**0,28**

As a result of the difference in the areas of each study cases, in the morphological regions of town plan analyzes, the areas contains the delimitation lines of second order regions, which are determined within a larger scale in the whole Historical Peninsula. Therefore, at least 2 second order regions can be seen partly from the focused case areas and indicate major plan units of the old town. Especially in the case of Aksaray, identified regions seem higher than other study areas. Yet, 3th order regionalization gives approximately the same results. This can be seen in morphological regions of town plan analyzes of the areas around 20 regions; which

indicate 20 character areas. For example, in the case of Beyazıt, 4 of the 16 morphological regions based on the town plan are showing the same character features while the others require distinct considerations. In Aksaray, 20 character areas and 6 of the regions, which represent built environment formed after 1935 with commercial utilization, can be discussed as reflecting character areas with the same identity; whereas the regions that are illustrated for Yenikapı indicate varied character areas. As well as the town plan, in the results of other analyzes, the fourth order regions are the evidence that in the studied parts of the Historical Peninsula, there are numerous morphotypes and building fabrics which can be the sign of complexity of the town or oncoming changes for some areas.

There regions are examined based on the areas of the case study regions. Study area of Beyazıt is 30 ha, study area of Aksaray is 75 ha, and study are of Yenikapı is 50 ha. In the second section of the Table 5.2, the rate of the third order regions in 1 ha is calculated based on the areas. Since the third order regions represent the urban block relations regarding street-building-plot patterns and connections, these regions are compared. Also, according to the analyses, only third order regions are identified in all kind of urban form analyses. It can be seen from the findings that Beyazıt has more character areas than Aksaray and Yenikapı in terms of town plan, land use and ownership pattern analyses. In building fabric analysis, Yenikapı has the biggest rate of third order morphological regions. Differentiation of these rates indicates the transformation or complexity level of the regions.

The complexity of the Historical Peninsula, indeed, requires a more detailed research in this respect. Regionalization can be discussed by different participants in a joint study. Through this method, variety of character areas in a historical town can be ascertained. Although these regions can vary according to the planners or designers, similar regions can be recognized in general terms. Besides these, the persistence degree of urban form complexes can be observed based upon combination of these 3 form complexes as an interpretation of urban fabric.

In the research area, morphologic regions that are determined through morphological analyzes, current conservation areas are crossing with second, third and - in some parts as registered buildings – fourth regions. However, no total conservation strategy can be found inside of the first order identified as the whole historical town surrounded by old city walls. Therefore, morphologic analyses and morphological regions studied in this thesis can be a method for conservation or urban design practices considering the urban character in detail.

In townscape management and conservation practices of historical European towns, three basic concepts are especially taken into consideration: character, sense of place and genius loci (spirit of place). However, identification of character areas in conservation plans can be changeable because these concepts are not defined clearly. In this regard, understating urban dynamics becomes crucial. Morphological region maps depend on the type of the research area and from unities constituting character areas, since Conzen does not specify direct prescription for implementation in his morphological region concept and studies. Urban planners, architects, urban morphologists, authorities and other professionalists from different disciplinarians can use morphological regionalization by elaborating the basic elements of urban blocks within historical periods as discussed in Conzenian tradition.

Though, in the case of Istanbul's Historical Peninsula, as a result of major transportation projects, privatization executions, redevelopment practices incompatible with conservation plans, and enacting new laws against current laws which prevent construction activities of the government and investors by the government. Thus, in order to prohibit the process of the system which makes the conservation of the old towns a tool for new identity formation, legal enforcements showing its spatial outcomes within property relations in detail of urban fabric must be built in a serviceable way, considering the identity of the historical towns from morphological structure to the socio-political stratifications.

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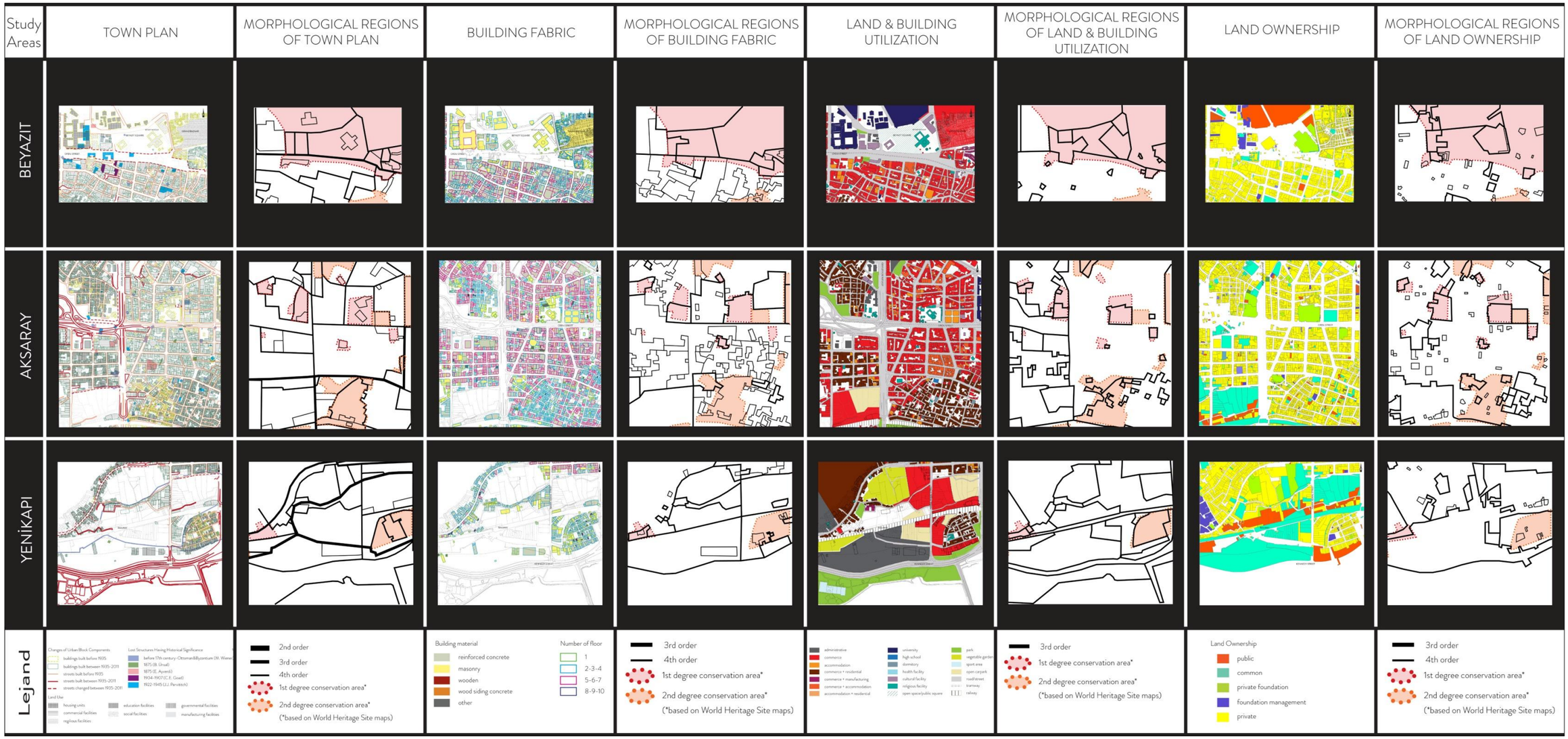
APPENDICES

APPENDIX A: Analyses, Maps and Plans

APPENDIX A

Figure A.1 : Town plan, building fabric and land and building utilization analyzes and their morphological regions of Beyazıt, Aksaray and Yenikapı.



*first order of morphological regions (based on town plan) is taken as Historical Peninsula as a whole, thus cannot be seen in this scale.

Figure A.2 : Beyazıt Pervititch maps, 1935, merged by author.

Figure A.3 : Aksaray Pervititch maps, 1935, merged by author.

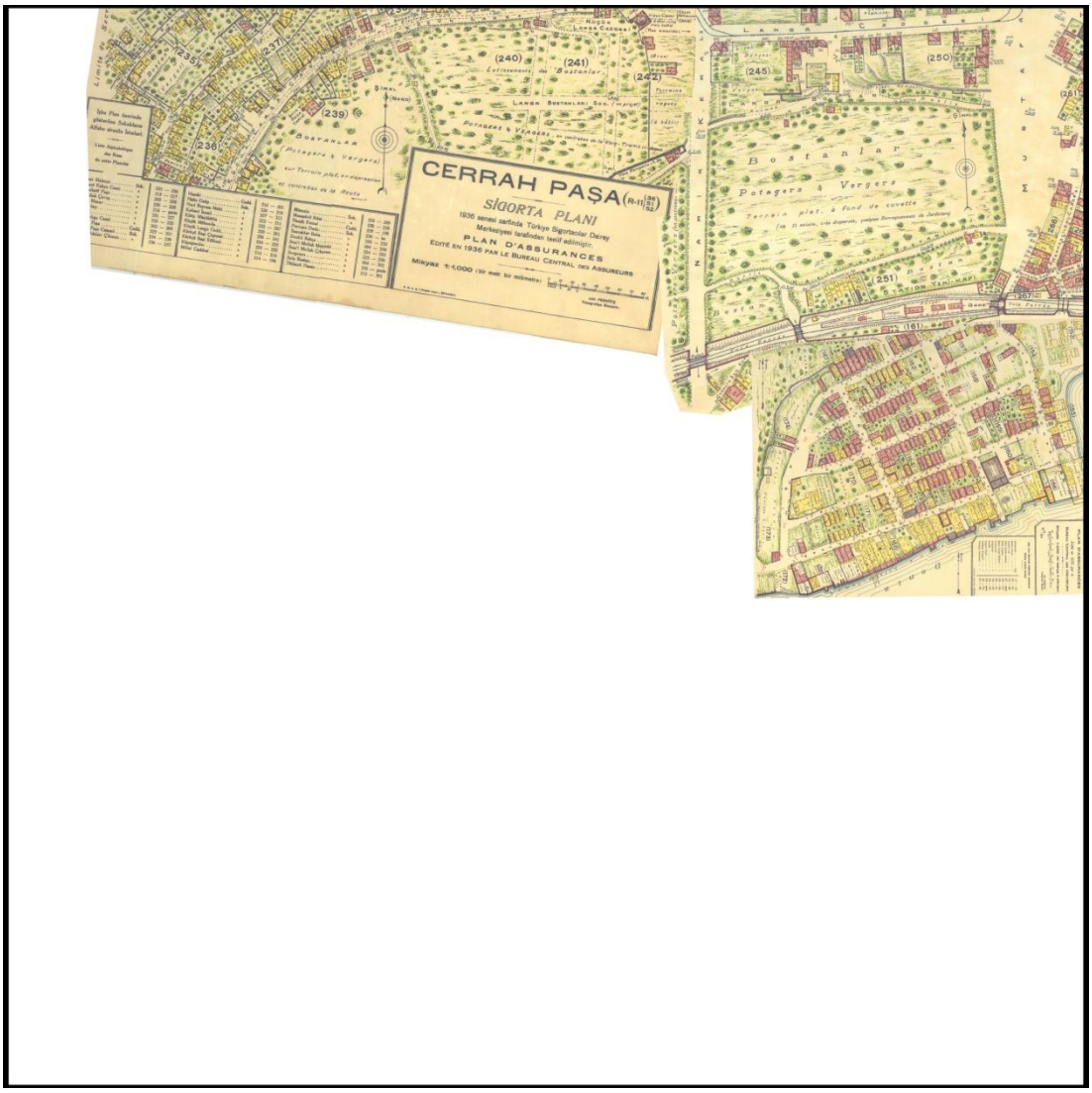


Figure A.4 : Yenikapı Pervititch maps, 1935, merged by author

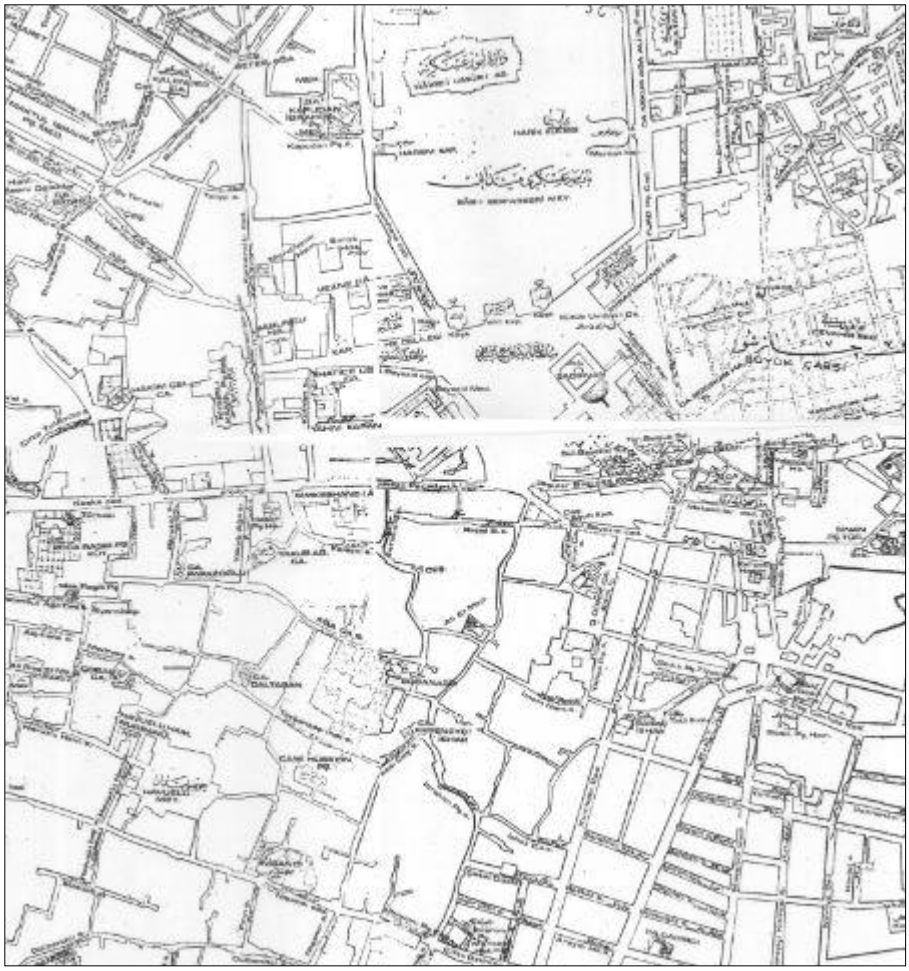


Figure A.5 : Beyazıt in Ayverdi map, 1975-82, merged by author.

Figure A.6 : Aksaray and Yenikapı in Ayverdi map, 1975-82, merged by author.

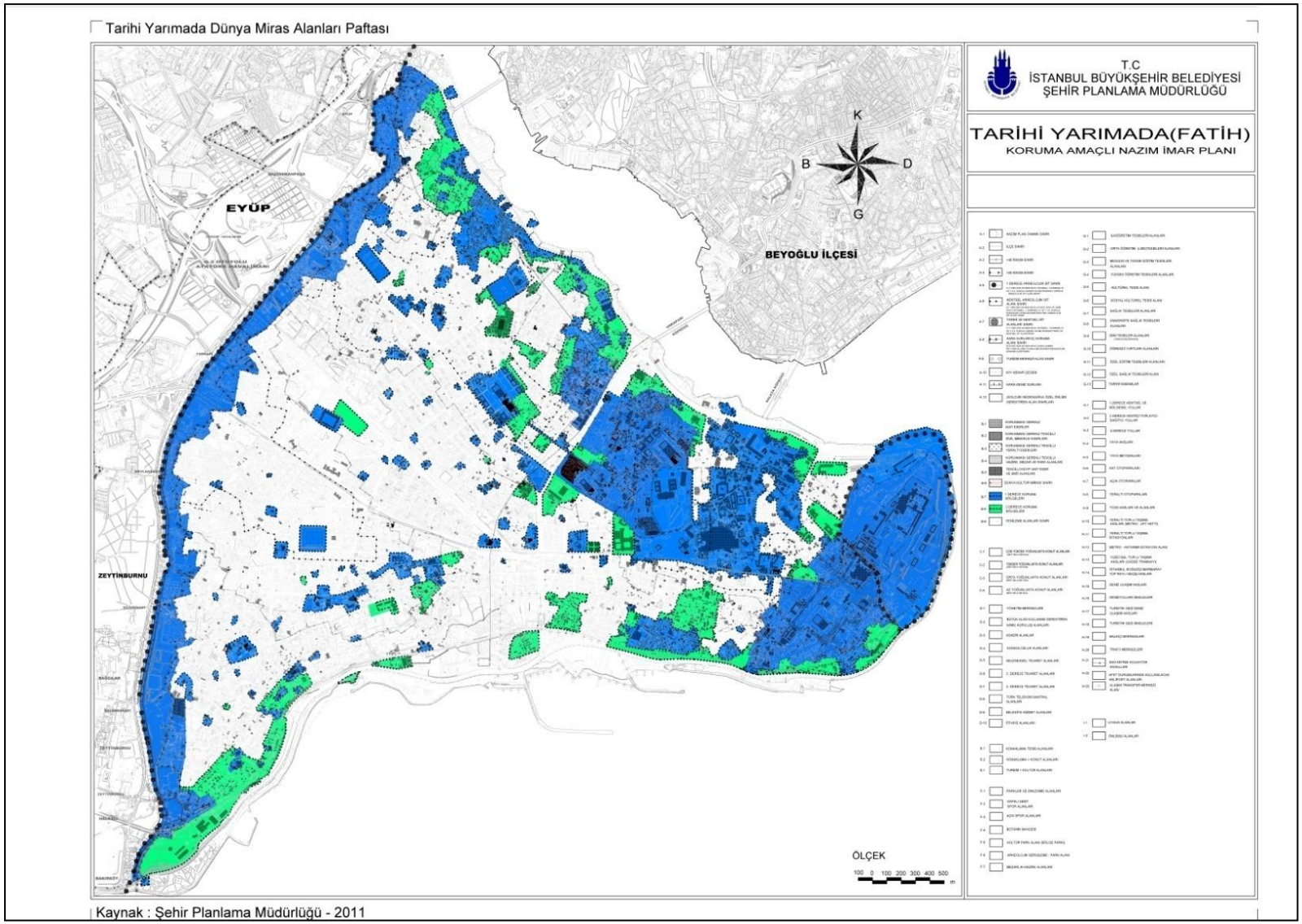


Figure A.7 : Conservation areas of Historical Peninsula, 2011.

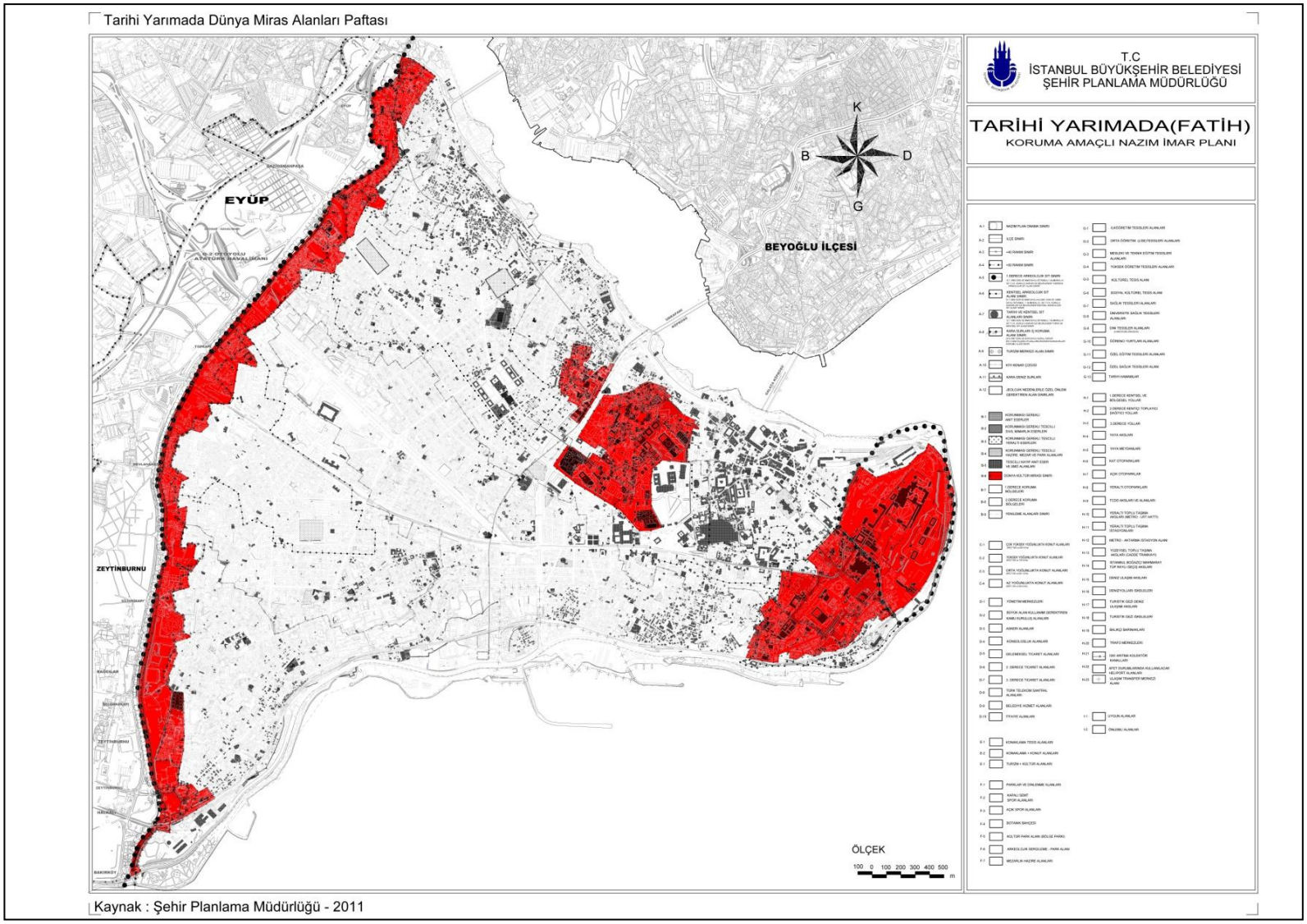


Figure A.8 : World Heritage Sites of Historical Peninsula, 2011.

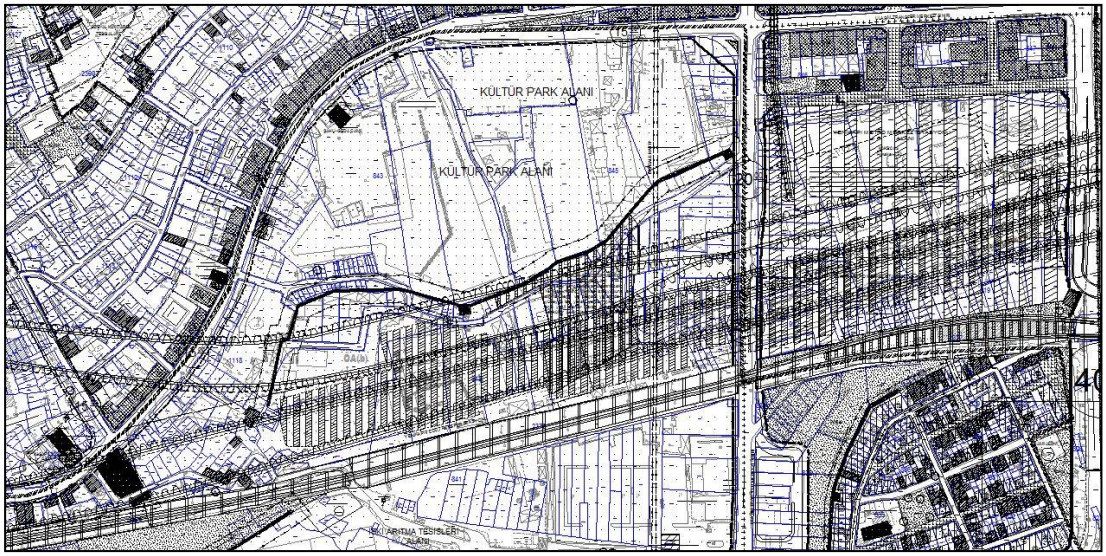


Figure A.9 : Yenikapı transportation point, 1/1000 conservation implementation plan, 2012.

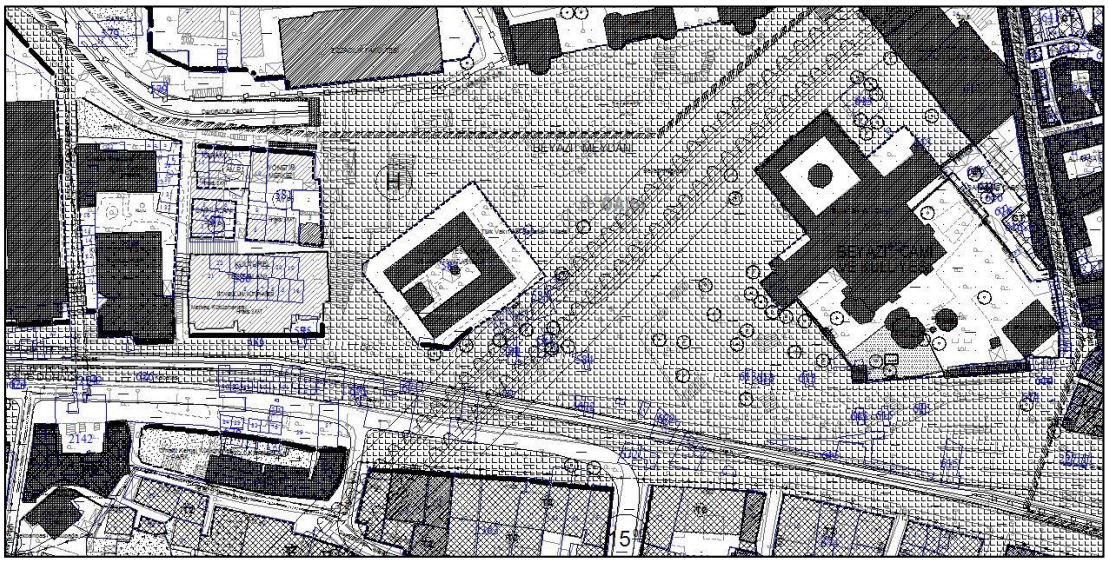


Figure A.10 : Beyazıt Square and Marmaray, 1/1000 conservation implementation plan, 2012.

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